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ABSTRACT

After outlining the goals, budget, and personnel of the research and evaluation branch of the Dallas Independent School District, the results of 150 program evaluations are summarized and interpreted. Most evaluations are based on achievement gains as measured by standardized achievement tests. Results are often analyzed by district, subdistrict, grade, subtest, and ethnic classification: white, hispanic, or black. In Volume I spring-to-spring achievement gains and trends since 1979 are related to desegregation mandates, enrollment trends, and school holding power. Other sections discuss the Wesman Personnel Classification Test for teacher selection and the Teacher Evaluation Pilot Program: accreditation by the Texas Education Agency state compensatory education programs: the Emergency School Aid Act: and the Title IV-C and Title VII programs. Volume II describes Title I programs for grades kindergarten to six in district and private schools. Their major thrust was instructional with concentration in reading, mathematics, abd bilingual education. Other sections discuss local and externally funded remedial programs: special education, magnet schools, desegregation compliance, applied research on learning, basic skills, and teaching methods: parent involvement: and the Texas Assessment Project for basic skills. (CP)

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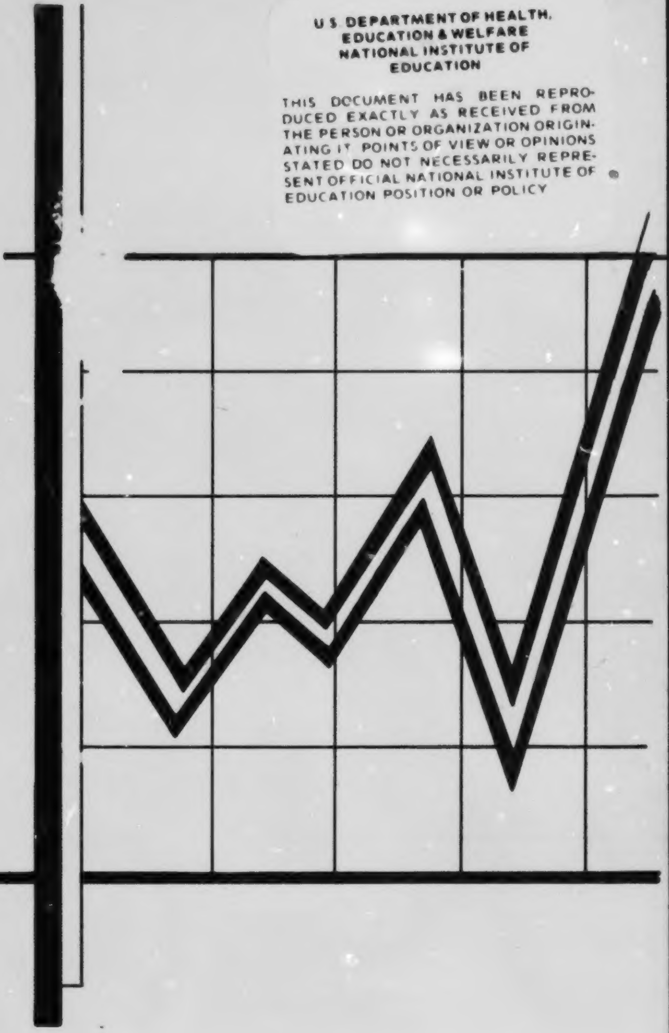
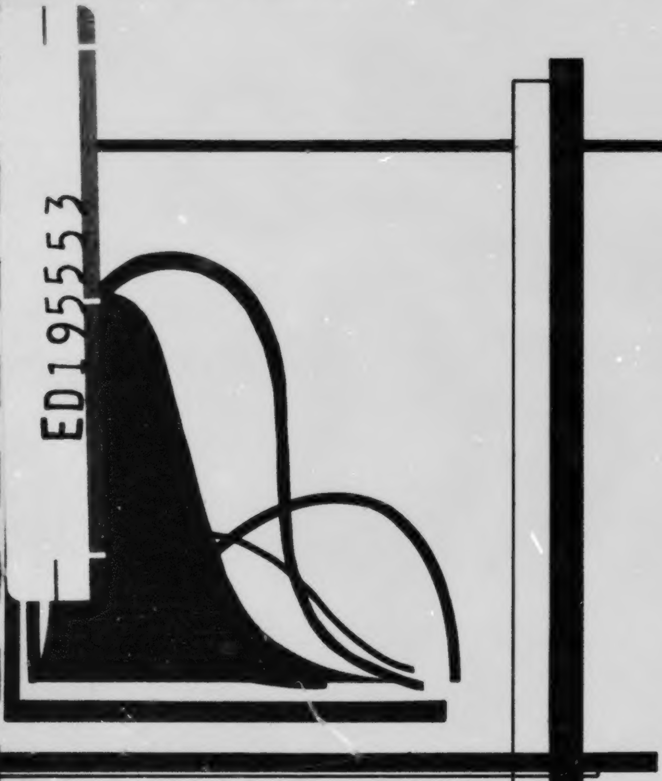
INTERPRETATIVE ANALYSES OF 1978-79 RESEARCH AND EVALUATION REPORTS

VOLUME I





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DEPARTMENT OF RESEARCH AND EVALUATION

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Dallas Independent School District
Linus Wright, General Superintendent

Accountability and Development Division
William J. Webster
Associate Superintendent

Department of Research and Evaluation
C. LaVor Lym
Deputy Assistant Superintendent

INTERPRETATIVE ANALYSES OF 1978-79 EVALUATION REPORTS

VOLUME I

Approved report of the
Department of Research and Evaluation

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Development

Dallas, Texas
February 1980

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OVERVIEW OF THE RESEARCH AND EVALUATION BRANCH
OF THE DEPARTMENT OF RESEARCH, EVALUATION, AND INFORMATION SYSTEMS

The major purposes of the Research and Evaluation Branch (R&E) of the Department of Research, Evaluation, and Information Systems are to provide useful information to decision-makers and to serve as an accountability agent. The process requires cooperative action by decision-makers (i.e., curriculum developers, teachers, and administrators) and evaluators. The decision-maker's role is to weigh the evidence provided him by the evaluator and render judgment about what course of action to take in the situation confronting him. Because the decision-maker generally does not have the time or technical skill necessary to gather and analyze the objective data necessary to make informed decisions, the evaluator provides him with information concerning the reason action must be taken and alternative strategies that are open. Thus, it is essential that the evaluator know enough about the decision-making process and the information used by the evaluator in reaching a given decision, to identify the scientifically sound and useful information needed to reach an objective decision. Through the aforementioned process, the educator becomes accountable for his decisions.

In implementing data collection and analysis activities, the evaluator shares an obligation with the educator; he must provide information which is valid and objective. Objectivity requires that the evaluator must be free to identify and investigate the viewpoints of a given decision-maker's clients, constituents, and other interested parties. The evaluator has four broad obligations in the evaluation process: (a) to focus on evaluative information to be provided; (b) to collect, organize, and analyze this information; (c) to administer evaluative activities; and (d) to provide relevant evaluative feedback to decision-makers at all levels.

In order to provide the services alluded to above, fourteen general classes of activities are implemented. These activities include:

a. Management - the obtaining, disbursing, and quality control of material and personnel resources necessary to meet the information needs of the District.

b. Testing - the operation of the basic data acquisition system in such a manner as to insure reliable, valid, and objective instrumentation and reporting.

c. Instrument development - the development and validation of necessary instrumentation.

d. Context evaluation - the provision of baseline information that delineates the environment of interest, describes desired and actual outcomes, identifies unmet needs and unused opportunities, and diagnoses problems that prevent needs from being met.

e. Input evaluation - the provision of information for determining optimum methods of resource utilization for accomplishing set goals.

f. Process evaluation - the provision of information for determining defects in procedural design or implementation during program implementation stages and for aiding in the interpretation of product evaluation data.

g. Product evaluation - the provision of information for determining the relative success of educational programs. Product evaluation may be interim or summative and generally addresses the extent to which programs meet their objectives, the relative effects of alternative program, and/or program cost-effectiveness.

h. Applied research - the provision of information pertaining to interactions between student characteristics, teacher characteristics, and/or instructional strategies.

i. Basic research - the provision of information pertaining to fundamental relationships affecting student learning.

j. Data processing - the operation of the basic data retrieval and analysis system.

k. Planning services - the provision of technical assistance to District and project management in planning and managing projects and programs.

l. Ad hoc information - the provision of requested information on an ad hoc basis to decision-makers.

m. Research consultation - the provision of design and analysis help to District personnel in implementing their own research and evaluation projects.

n. Proposal development - the development of proposals, or the evaluation sections of proposals, for outside funds. In all cases outside funds should be a means to an end, not an end in themselves.

To provide these evaluation activities, Research and Evaluation is organized into six branches. The first, System-wide Testing, is responsible for the design and implementation of DISD system-wide norm-referenced, criterion-referenced, and minimal competency testing programs. The second, System-wide Evaluation, performs the longitudinal and cross-sectional research and evaluation necessary to supply major DISD decision-makers with information about the overall functioning of DISD programs. It provides context information of both a status and long-range project nature. The third, Special Program Evaluation, evaluates specific developmental projects to ascertain the effects of those projects on developing specific student abilities in areas that generally need more mediation than that which is provided by the DISD general academic program. Process and product evaluation duties form the bulk of this branch's activities. The fourth, Federal Program Evaluation, evaluates specific federally-funded projects and programs. In addition to project evaluation duties, it is involved in proposal development. The fifth, Accountability and Accreditation, provides support to the Personnel Department in employee evaluation and to District principals and other staff in the Texas Accreditation Program. The sixth, Applied Research, coordinates and conducts the District's basic and applied research studies. It also satisfies the ad hoc information needs of the District and provides technical assistance to DISD personnel in conducting their own research and evaluation projects. The Data Processing Branch of the Department of Research, Evaluation, and Information Systems provides the equipment necessary for data retrieval and analysis.

GOALS AND BUDGET OF THE DEPARTMENT OF RESEARCH, EVALUATION, AND INFORMATION SYSTEMS

1978-79

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
1.0 Management	90,092	23,000

Provide for prudential management of the planning, organizational, staffing, and everyday functions of the Department of Research, Evaluation, and Information Systems in its effort to provide research, evaluation, planning, curriculum analysis, data processing, and accountability services to District students, teachers, administrators, and to the public.

1.1 Establish objectives.

1.2 Develop strategies for accomplishing objectives.

1.3 Secure material and personnel resources necessary to accomplish objectives.

1.4 Review and revise strategies in view of budget constraints.

1.5 Establish priorities.

1.6 Conceptualize new methodologies.

1.7 Produce services and products specified in objectives.

1.8 Secure quality control of services and products so produced.

1.9 Recruit, develop, and evaluate staff.

1.10 Provide liaison with other departments within the District.

1.11 Provide liaison with the General Superintendent and Executive Team.

1.12 Provide liaison with the Board of Education.

1.13 Provide liaison with external agencies engaged in planning, research, evaluation, or data processing activities.

OBJECTIVES		GEN. FUNDS	OTHER FUNDS
1.0	Management (Cont'd.)		
1.14	Provide technical assistance to the Texas Joint Urban Curriculum Council, the Texas Joint Urban Evaluation Council, and the Texas Education Agency in the design and implementation of an accountability model for the State of Texas.		
1.15	Develop and implement a competency-based merit promotion system.		
2.0	Building Management	62,162	16,497
	Operate the various building sites and provide administrative support to the Department of Research, Evaluation, and Information Systems.		
2.1	Operate significant portions of the Stephen J. Hay and Edwin J. Kiest buildings.		
2.2	Provide departmental clerical/secretarial support.		
2.3	Provide departmental equipment and supplies.		
2.4	Print reports for dissemination.		
3.0	System-wide Testing	231,478	48,215
	Operate the District's System-wide Testing program through the planning, supplying, administering, monitoring, scoring, reporting, and interpreting the results of all group-testing programs, and the coordination of all non-departmental or non-District-originated testing programs.		
3.1	Plan the District's 1978-79 group-testing program.		
3.2	Implement and monitor the plan. Administer, score, and report the results of:		
3.2.1	System-wide group tests: MRT (K), ITBS (1-8), ITED (9-11), April.		

OBJECTIVES	GEN. FUNDS	OTHER FUNDS

3.0 System-wide Testing (Cont'd.)

3.2.2 Functional literacy tests including items measuring basic reading comprehension and mathematics computation ability, as well as basic science/health and citizenship information. Administered at grades 3,6, 8,12 in January/February.

3.2.3 Criterion-referenced diagnostic tests for use in reading and mathematics at teacher discretion, grades K-8.

3.3 Distribute testing materials relating to the Partners In Learning program. Tests include:

3.3.1 Tests of Essential Reading Skills (TERS)

3.3.2 Test of Essential Writing Skills (TEWS)

3.3.3 Diagnostic Math Test

3.3.4 Shaw-Hiehle Computation Test

3.4 Examine alternatives to the ITED at the secondary level.

3.5 Explore Rasch-item calibration as a method of validating functional levels and articulation across levels.

3.6 Cooperate with the Curriculum Research Branch in analyses of the isomorphism between baseline documents and tests.

3.7 Conduct 30 staff development sessions with school staffs on the use of tests.

3.8 Coordinate Building Test Coordinators in collecting and interpreting test data.

3.9 Prepare an analysis of the state of the art in educational testing.

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
4.0 Minimal Competency Test Development and Validation	58,010	0

Develop one functional literacy test encompassing basic reading comprehension and mathematics computational ability with basic science/health and citizenship information.

4.1 Establish a blueprint for functional-literacy testing.

4.2 Consolidate existing item pools into the structure of the blueprint.

4.3 Supplement item pools where necessary.

4.4 Develop tests.

4.5 Conduct testing in January/February at grades 3,6,8,12.

4.6 Revise items where appropriate.

4.7 Establish validity of items.

4.8 Prepare position paper on functional-literacy testing

5.0 Context Evaluation	215,910	76,047

Monitor and assess the District's basic instructional program at both the school and District levels through systematic context evaluation data provided by the Institutional Research Group.

5.1 Maintain the longitudinal student data bases.

5.2 Create a school data base permitting immediate access.

5.3 Produce dropout studies.

  5.3.1 Design, document, and implement a workable system for identifying school dropouts.

5.4 Produce Graduate Follow-up Studies

  5.4.1 Design, document, and implement a workable system for following-up on District graduates.

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
5.0 Context Evaluation (Cont'd.)		
5.5 Produce measurement profiles including:		
5.5.1 Standardized test performance by school and subdistrict, grades K-11.		
5.5.2 Functional literacy test performance by school and subdistrict, grades 3,6,8,12.		
5.5.3 Quasi-longitudinal and cohort-longitudinal profiles of 5.5.1 and 5.5.2 by subdistrict.		
5.5.4 Concomitant data including student mobility, absenteeism, and ethnic background; teacher experience, degree levels, age, mobility, ethnic background, and absenteeism; and community socioeconomic status.		
5.6 Produce criterion-referenced testing profiles:		
5.6.1 Design, document, and implement a workable system for reporting criterion-referenced test results.		
5.7 Produce the School Input Indices.		
5.8 Produce 2 Lost and Found Studies.		
5.9 Coordinate the evaluation of the K-3, 4-6, 7-8, and 9-12 centers.		
5.9.1 Design studies.		
5.9.2 Coordinate data collection.		
5.9.3 Implement studies.		
5.9.4 Analyze data.		
5.9.5 Write reports.		
5.10 Produce enrollment trend and projection studies.		

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
5.11 Design, document, and implement a workable system for deriving teacher and school-effectiveness indices.		
5.12 Work with the Accountability and Accreditation Branch to provide necessary data for school accreditation.		
5.13 Produce a new five-year plan for Institutional Research.		
5.14 Produce an interpretative analysis of institutional research data.		
6.0 Accountability and Accreditation	302,741	0
Coordinate the data collection and analysis activities for the Texas Education and Southern Association Accreditation Models, as well as other relevant data, to insure accountability of the District to its many publics.		
6.1 Study needs assessment data.		
6.2 Coordinate the development of plans to meet demonstrated needs in specific areas.		
6.3 Prioritize plans and develop into a give-year plan.		
6.4 Submit five-year plan to the Texas Education Agency.		
6.5 Evaluate five-year plan in conjunction with Southern Association Accreditation activities.		
6.5.1 Carter, Kimball, and South Oak Cliff attendance areas will be the focus for 1978-79 evaluations.		
6.6 Continue the operation of the Campus-Level Planning Model.		
6.7 Support the evaluation of the K-3, 4-6, 7-8, and 9-12 centers through System-wide classroom observations at grades 3,6,8, and 11.		
6.7.1 Observe instructional process variables.		

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
6.0 Accountability and Accreditation (Cont'd.)		
6.8 Evaluate the Partners in Reading, Writing, and Mathematics Programs.		
6.8.1 Design studies.		
6.8.2 Design data collection systems.		
6.8.3 Implement studies.		
6.8.4 Analyze data procured.		
6.8.5 Report results.		
6.8.6 Complete data collection system.		
6.9 Support the Personnel Department in developing and validating innovative personnel evaluation systems through research.		
6.9.1 Evaluate the Pilot Teacher Evaluation Program.		
6.9.2 Provide empirically-validated data for applicant screening.		
7.0 Court Accountability	31,455	0
Monitor and assess the District's desegregation efforts and report to the Court.		
7.1 Design data collection procedures to respond to Court Order.		
7.2 Collect Data.		
7.3 Analyze Data.		
7.4 Prepare December 15 and April 15 reports to the Court.		
8.0 Federal Program Evaluation	52,014	656,152
Provide assessment of the impact of various federally-funded programs through systematic context, process, and product evaluation to assist District staff in planning needed instructional improvements.		

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
8.0 Federal Program Evaluation (Cont'd.)		
8.1 Review and suggest input into proposals for Federal funds.		
8.2 Secure priorities for evaluation activities.		
8.3 Secure necessary material and human resources.		
8.4 Design studies.		
8.5 Implement studies.		
8.6 Analyze data.		
8.7 Assist in preparation of 1979-80 proposals for Federal funds.		
8.8 Report evaluation results. Approximately 12 Title I, 15 Title IV-C, 2 Title VII, 3 ESAA, and 3 State Compensatory Education programs totaling approximately 18 million dollars in expenditures are to be evaluated.		
8.9 Produce an interpretative analysis of the effects of Federal funds on DISD children.		
8.10 Produce a position paper on the methodological issue in the evaluation of compensatory education.		
9.0 Special Program Evaluation	376,722	159,961
Provide assessments of the impact of various developmental and alternative instructional programs through systematic context, process, and product evaluation to assist District staff in planning needed instructional improvements.		
9.1 Meet with managers of programs to be evaluated.		
9.2 Design evaluation systems.		
9.3 Implement evaluation systems.		
9.4 Analyze data.		

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
9.0 Special Program Evaluation (Cont'd.)		
9.5 Report results.		
9.6 Continuing evaluation includes:		
9.6.1 Skyline CDC		
9.6.2 The Arts, Business and Management, Health Professions, Human Services, Government & Law, and Transportation Magnets.		
9.6.3 The Vanguard and Academy Schools.		
9.6.4 The Talented and Gifted Program.		
9.6.5 Special Education Programs.		
9.7 Produce an interpretative analysis of all Special Program evaluation results.		
9.8 Evaluate special curriculum projects.		
9.8.1 Priorities establish major candidates for evaluation in Computer-Assisted Instruction and Instructional Television.		
9.9 Produce a position paper on methodological issues in the evaluation of special education.		
10.0 Input Evaluation Provide systematic input evaluation and planning support to aid decision-makers at both the campus and District levels in selecting and implementing educational programs.	39,724	33,164
10.1 Work closely with the curriculum development/research unit in staying current with the latest developments of instructional programming and delivery systems.		
10.2 Produce one state-of-the-art paper in a curriculum area each month.		

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
11.0 Applied Research	73,336	92,612

Conduct and coordinate applied research studies which will assist District staff in improving the instructional delivery process.

11.1 Implement the longitudinal plan for basic and applied research.

11.2 Issue RFP's to area universities inviting them to help in the implementation of the plan through carefully monitored faculty and graduate student research.

11.3 Coordinate, through the Development Council, the selection of studies that optimize potential payoff to the District.

11.4 Implement selected studies in accordance with the applied research plan.

11.4.1 Establish priorities for research.

11.4.2 Design studies.

11.4.3 Implement studies.

11.4.4 Analyze data.

11.4.5 Report results.

11.5 Design and field-test a Model Management Information System for Instructional Evaluation.

11.6 Aid the Accountability and Accreditation Branch in the system-wide evaluation of instruction in terms of major instructional process variables that impact academic achievement.

11.7 Work with the Curriculum Development/Research group in validating the Baseline Documents in terms of sequential validity for learning/retention, instructional activity/outcome validity, and validity of instructional support activities.

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
11.0 Applied Research (Cont'd.)		
11.8 Revise and update the Plan for Applied Research.		
11.9 Produce a module specifying instructional variables to be studied for use in project evaluation.		
11.10 Produce an interpretative analysis of applied research data.		
12.0 Ad Hoc Research	21,741	0
Respond to the ad hoc needs of District decision-makers with objective, accurate data.		
12.1 Receive requests for ad hoc information.		
12.2 Collect or obtain data pertaining thereto.		
12.3 Analyze data and generate reports.		
12.4 Complete approximately 20 ad hoc studies each year.		
12.5 Work with the Texas Joint Urban Evaluation Council in various projects.		
13.0 Research Consultation	6,002	0
Provide technical assistance to practitioners implementing research and/or evaluation studies in the District.		
13.1 Operate Office of Research Consultation.		
13.2 Encourage grassroots action research through a small grants and consultation program.		
14.0 Development of Archives	10,000	0
14.1 Locate and organize all evaluation reports completed by the Department of Research, Evaluation, and Information Systems during the past nine years.		

OBJECTIVES	GEN. FUNDS	OTHER FUNDS
14.0 Development of Archives, (Cont'd.)		
14.2 Organize, edit, and renumber reports for permanent records.		
14.3 Provide reports, both past and present, at cost when requested.		
TOTALS	**$1,571,388.**	**$1,105,648.**

SENIOR STAFF OF THE RESEARCH & EVALUATION BRANCH OF THE DEPARTMENT OF RESEARCH, EVALUATION, & INFORMATION SYSTEMS OF THE DALLAS INDEPENDENT SCHOOL DISTRICT

1978-1979

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INTERPRETATIVE ANALYSES

RE79-800-61-30

An Interpretative Analysis of System-wide Achievement Data, 1978-79 Grades K-3

George H. Olson and James A. Meier

The purpose of this report is to provide a summary and interpretation of system-wide results for Grades K-3, contained in the following System-wide Evaluation reports.

1. Norm-referenced Performance Profiles 1979 (Meier, Whitmore, and Olson, IR79-006-31-30 through IR79-006-36-30).
2. Quasi-Longitudinal Achievement Trends 1973-79 (Meier and Eberhart, IR79-008-31-30 through IR79-007-35-30).
3. Cohort-Longitudinal Achievement Trends 1976-79 (Meier and Eberhart, IR79-003-31-30 through IR79-003-35-30).
4. Basic Objectives Assessment Tests Profiles 1979 (Meier, IR79-009-31-26 through IR79-009-36-26).

In interpreting the achievement results summarized in these documents, we also make use of results contained in the following documents.

5. 1978-79 School Holding Power Study (Marcus and Julian, IR79-012-31-10).
6. Eleven-year Enrollment Trends (Sheehan and Berry, IR79-091-31-05).
7. Enrollment Projections for 1979-83 (Sheehan and Berry, IR79-088-31-05).

Context

Desegregation

On 7 April 1976, the U.S. District Court for the Northern District of Texas, Dallas Division, divided the DISD into six subdistricts and established a system of uniform grade configurations, one of which consisted of K-3 schools. The Court Order also held that four of the six subdistricts were to approximate the district-wide ethnic composition within plus or minus 5 percent. Of the two remaining subdistricts, one, East Oak Cliff, was to be left almost entirely Black, and one, Seagoville, was to be left majority White.

Of the four subdistricts involved in the requirement to achieve ethnic parity with the total district, one, the Southwest Subdistrict, was to a large extent already naturally integrated and thus only moderately involved in the court-ordered desegregation plan. The remaining three subdistricts were to be heavily involved.

The Court Order ruled that ethnic parity in the involved subdistricts would be established by bussing students of all ethnicities in Grades 4 through 8. This resulted in over 16,000 students being bussed for purposes of desegregation when school opened in August, 1976. Thus since the beginning of the 1976-77 school year, District fourth through eighth graders have experienced a situation unprecedented in DISD history. For the first time ever, large numbers of these students of all ethnicities began being transported by bus from their own neighborhoods to schools elsewhere in the District in order to achieve an ethnically balanced student body.

Although not directly affected by the bussing mandate of the 1976 Court Order, the K-3 centers may have been indirectly affected through parental anticipation of more active involvement in later years. The only data we have that might be sensitive to an indirect effect of the desegregation order on the K-3 grade configuration are enrollment-trend data.

Enrollment Data

Enrollment trends, along with enrollment projections, have been plotted in Figures 1-5, for five subdistricts (Seagoville has been pooled with the Southeast Subdistrict). An inspection of the graphs reveals that total enrollment has declined rapidly in the Northwest Subdistrict, declined more slowly in the Northeast and Southeast Subdistricts, has held more or less steady in East Oak Cliff, and has shown a sharp increase in the Southwest Subdistrict.

Enrollment trends have not been consistent across ethnic classifications, however. Thus, while White enrollment has declined markedly in all subdistricts except East Oak Cliff where there was only a small White enrollment to begin with (1968-69), and the Southeast Subdistrict, where the decline has been slower, possibly due to the fairly stable White enrollment in Seagoville, enrollments of Black and Hispanic students have generally increased.

No evidence could be found in the enrollment data to suggest a negative effect of anticipating active involvement in desegregation. To be sure, those three subdistricts which have experienced the greatest declines in White enrollment (NW, NE, SE) are the same subdistricts that

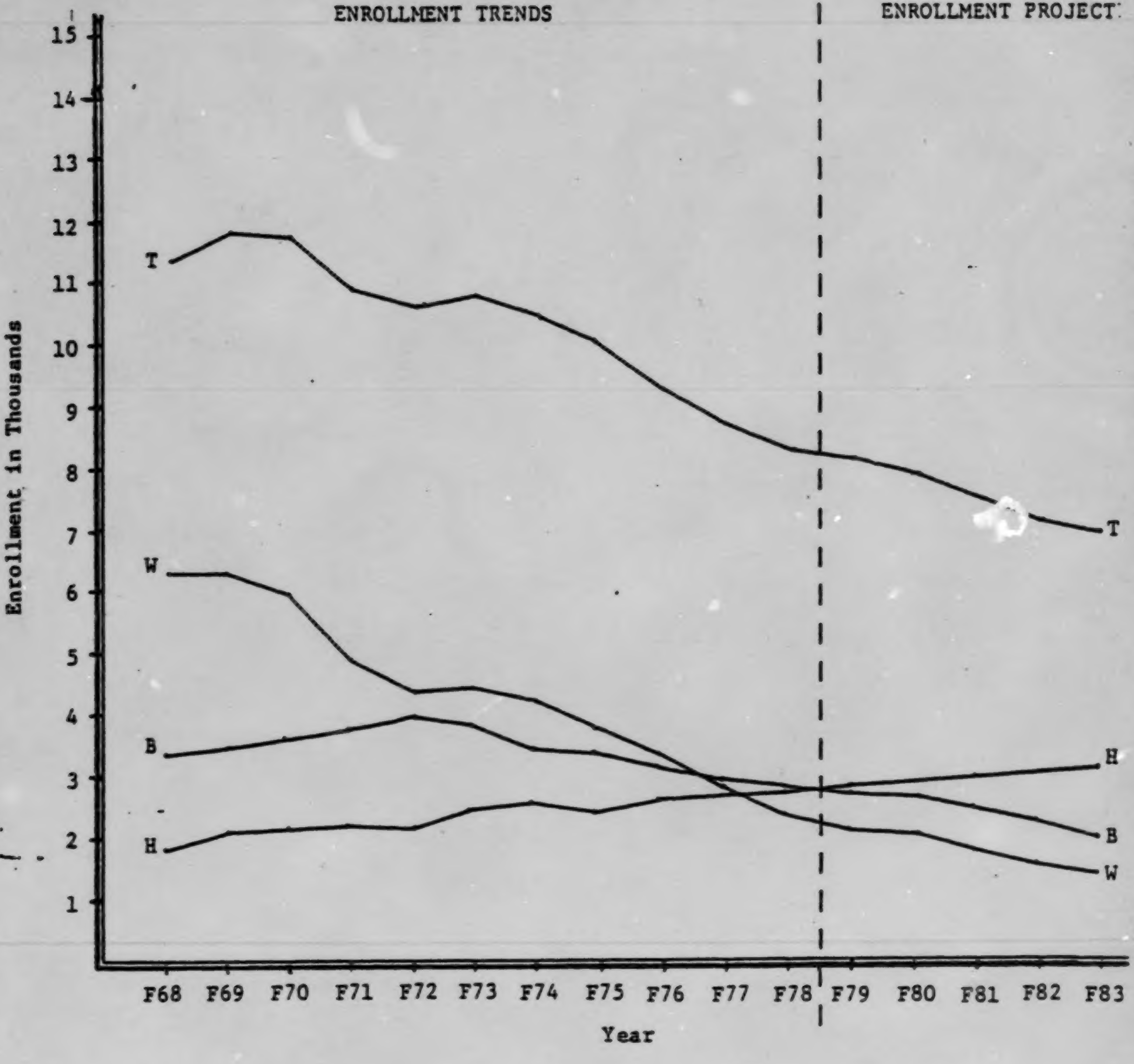

Figure 1

Enrollment Trends and Projections

Northwest Subdistrict
Grades K-3

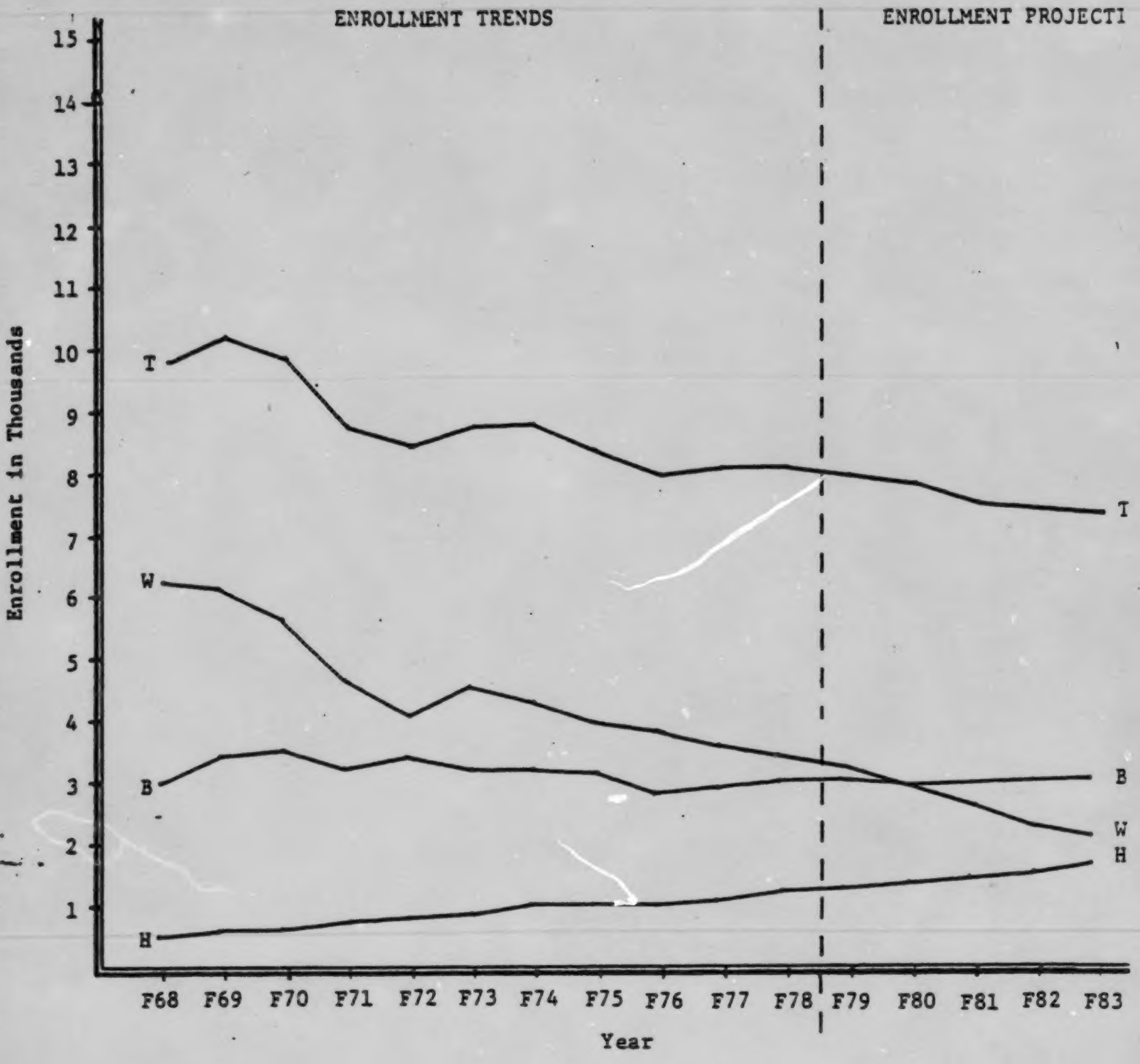

Figure 2

Enrollment Trends and Projections

Northeast Subdistrict
Grades K-3

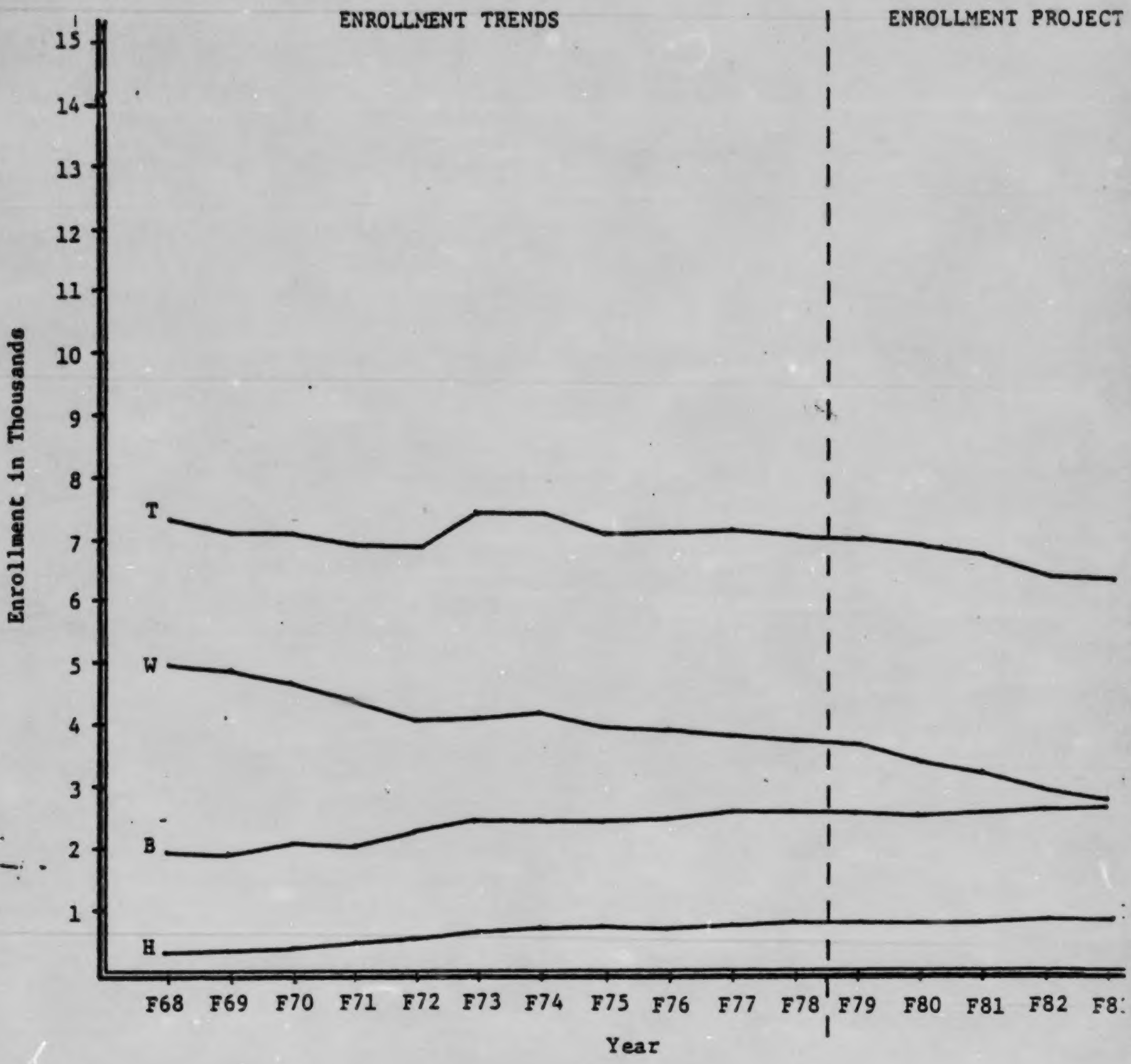

Figure 3

Enrollment Trends and Projections
Southeast Subdistrict
Grades K-3

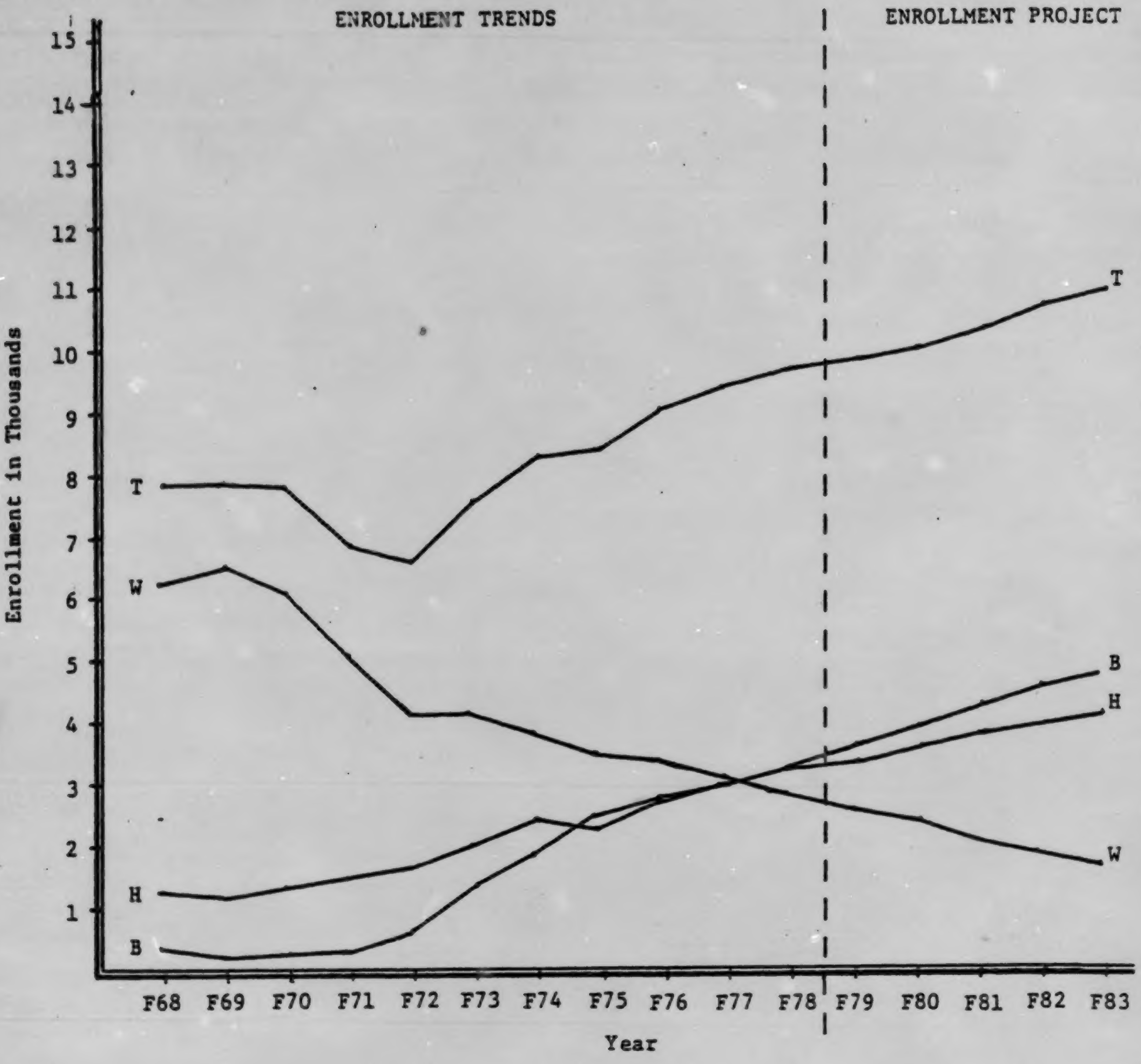

Figure 4

Enrollment Trends and Projections

Southwest Subdistrict
Grades K-3

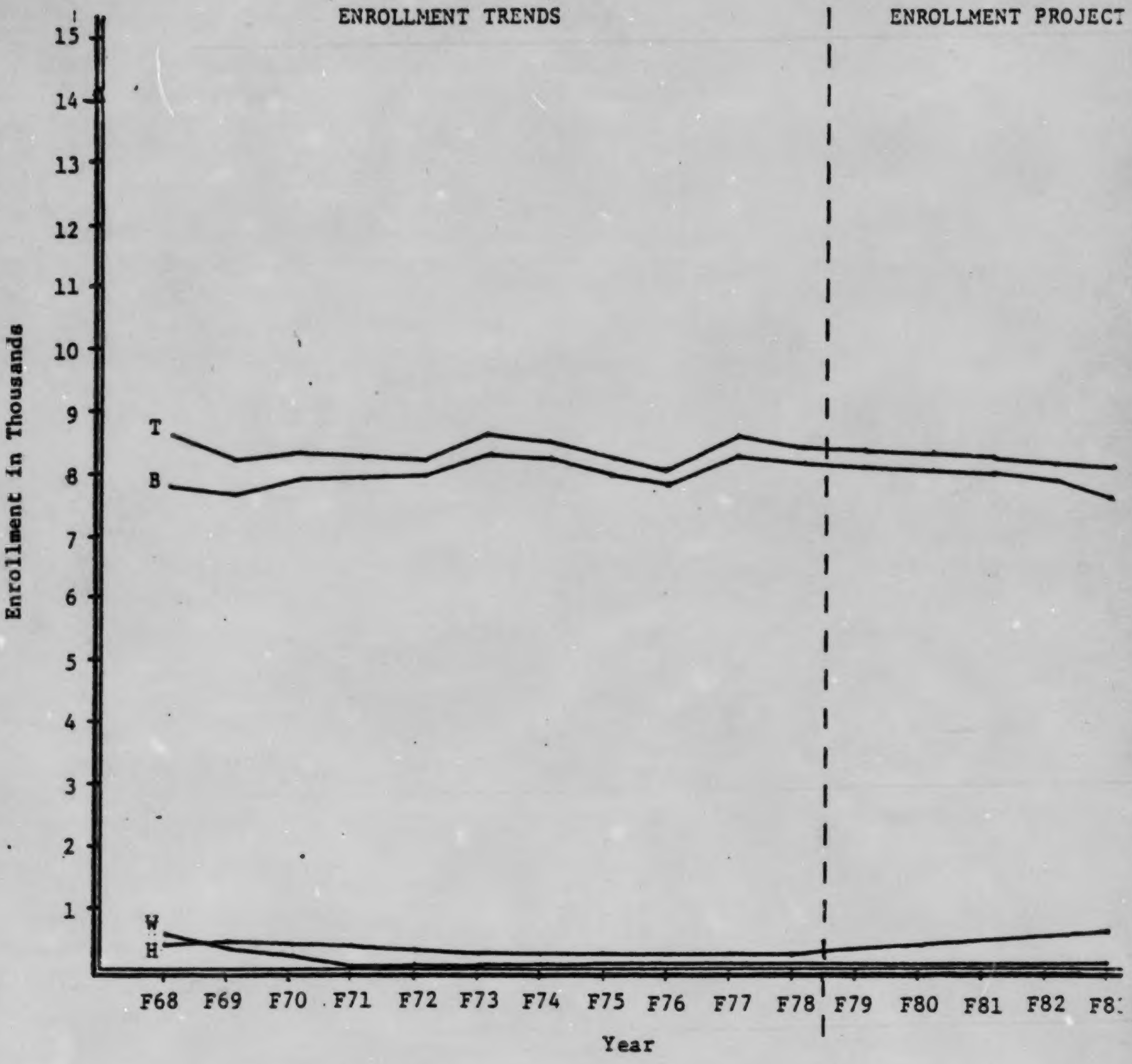

Figure 5

Enrollment Trends and Projections

East Oak Cliff Subdistrict
Grades K-3

are most heavily involved in bussing to achieve ethnic parity, but these declines have continued over several years beginning well before the latest Court Order.

Student Turnover

Another phenomenon, related to enrollment, that should be taken into account when interpreting the achievement results reported in this document is the mobility of the District's student population. While enrollment trends show changes in net enrollment over years, they do not yield information on the number of individual students who are lost or gained over the period. To study these changes it is necessary to examine the membership of given groups of students over years as has been done in Table 1. In this table we compared the Grade-1 membership in fall 1976 with the Grade-3 membership in spring 1979. Students who were enrolled in 1976 and still enrolled in 1979 were labeled "retained" students. Students enrolled in 1979 but not enrolled in 1976 were considered new or "gained" students.

Table 1 implies a considerable amount of student turnover in Grades 1-3. Thus we see that, although membership in this group of students showed a slightly positive net gain, nearly 33 percent of the original group members (in 1976) were no longer enrolled in 1979. On the other hand, over 35 percent of the group members were new as of 1979. Clearly this represents a significant change in the K-3 student population over just three years. What effect this has had on District achievement trends can only be surmised. However, as we shall see later, there may be some evidence to suggest that those students whom the District retained were better achievers than those whom it either lost or gained.

Table 1

Changes in Student Population from Grade 1, Fall 1976 to Grade 3, Spring 1979

		Retained[a]		Gained[b]		Net[c]	
Ethnicity		N	%	N	%	N	%
BLACK	Male	1950	80.12	856	30.53	372	15.28
	Female	1897	82.23	730	27.67	320	13.87
	Total	3847	81.14	1586	29.14	692	14.60
OTHER	Male	1077	50.59	740	41.11	-312	-14.65
	Female	929	50.13	732	44.28	-192	-10.36
	Total	2006	50.38	1472	42.63	-504	-12.66
HISPANIC	Male	595	67.00	399	39.78	106	11.94
	Female	602	69.76	388	38.92	127	14.72
	Total	1197	68.36	787	39.35	233	13.31
TOTAL	Male	3622	66.45	1995	35.58	166	3.04
	Female	3428	68.25	1850	34.98	255	5.07
	Total	7050	67.31	3845	35.29	421	4.02

[a] This column represents retentions from the fall of 1976, Grade 1 to the spring of 1979, Grade 3.

[b] This column represents gains to the 1979, Grade 3 population due to new students entering the DISD after the fall of 1976.

[c] This column represents changes relative to the 1976, Grade 1 population.

1978-79 Achievement

In this section we summarize the District's achievement for the 1978-79 school year in Grades K-3. It should be pointed out that, for the purpose of this report, achievement is rather narrowly defined as performance on one or more of the test batteries administered by the District's System-wide Testing Program. In 1978-79 the system-wide testing paradigm was as shown in Table 2. Achievement results will be presented for each of the batteries, MRT, ITBS, and BOAT, in turn.

Table 2

Numbers of Students in Grades K-3 Tested in 1978-79 by Grade Level and Test Battery

	Grade Level			
	K	1	2	3
MRT Level 1	1,170			
MRT Level 2	7,796			
ITBS Level 7		10,275	2,250	43
ITBS Level 8		15	8,457	2,340
ITBS Level 9				7,907
BOAT				10,227

Metropolitan Readiness Test (MRT) Results

The results on the pre-reading composite of the MRT are displayed in Table 3. According to the publisher, Level 1 of the MRT was designed for use in kindergarten while Level 2 was designed for use at the end of kindergarten or the beginning of Grade 1. Both levels were so

Table 3

Median Percentile and Percent of Average or Above-average Students on the Metropolitan Readiness Test Pre-reading Composite

		White		Hispanic		Black		Total	
		L1	L2	L1	L2	L1	L2	L1	L2
NW	Md. %ile	19	66	11	40	18	31	15	51
	% Average or above	42	87	29	73	40	61	35	73
NE	Md. %ile	21	68	8	36	6	27	9	45
	% Average or above	48	87	20	69	17	56	27	62
SE	Md. %ile	17	45		34	17	35	17	40
	% Average or above	25	76		68	36	66	34	72
SW	Md. %ile	17	45	5	32	8	32	7	36
	% Average or above	38	73	19	65	18	65	24	67
EOC	MD. %ile					18	38	18	38
	% Average or above					41	69	41	69
DISD	Md. %ile	18	57	9	36	17	34	13	40
	% Average or above	39	80	25	69	37	64	34	70

constructed that flexibility is permitted in choosing the level most appropriate for the particular needs of specific groups of students. The publishers give little additional information on choosing between levels. However, there is a general implication that the choice of levels should be made on the basis of curriculum focus rather than upon students' perceived ability levels. Thus, if the curriculum for certain segments of the kindergarten population is, in some way, at a lower level than that for the rest of the population, then that segment of the population should receive Level 1 and the remainder Level 2. What should be measured, in either case, is achievement within the constraints of a particular curriculum model.

We have no knowledge of the rationale used for assignment of MRT levels in the District in 1979. All that we can say is that the results for Level 1 reflect the achievement of the District's lower-achieving students while those reported for Level 2 reflect the results of the District's better-achieving students. This observation is supported by Table 3, in which the following are presented.

1. The median percentile of White students was well below norm for Level-1 students and above norm for Level-2 students. Somewhat less than half of Level-1 students and much more than half of Level-2 students scored above average.

2. The median percentile of Hispanic students was further below norm for Level-1 students than for Level-2 students. Only one-fourth of Level-1 students, while more than half of Level-2 students, scored above average.

3. The median percentile of Black students was further below norm for Level-1 students than for Level-2 students. Approximately one-third of Level-1 students and more than half of Level-2 students scored above average.

Iowa Tests of Basic Skills (ITBS) Results

The test results for the ITBS at Grades 1-3 are summarized in Table 4 by district, subdistrict, grade level, ethnic classification, and subtest. This table displays two types of information: (a) percentile ranks of median scoring students, and (b) the percentages of students who scored at or above norm, i.e., at or above the national, large-city 50th percentile, for each level of classification in the table.

Median percentile scores. The median percentile scores displayed in column "a" of Table 4 give the national, large-city percentile scores attained by the middle-scoring students in a group defined by a given level of classification in the table. By definition a median percentile of 50 is equivalent to the score attained by the middle-scoring student in the national, large-city norming population.

Besides providing a rough index of the level of group performance on the ITBS, median percentiles allow us to compare performance levels across subtests. Thus if the median student in a group scores at a higher percentile in reading than in mathematics, he/she is said to have performed better in reading than in mathematics. Accordingly, after examining the median percentiles in Table 4, we arrive at the following conclusions.

1. Median percentiles for White students were above norm on all three subtests at all three grade levels. In Grade 1 the language median was lowest; in Grade 3 it was highest. As grade levels increased, reading medians remained stable, language medians improved, and mathematics medians declined.

   Among subdistricts the highest median performance for White students occurred in the Northwest and the lowest in the Southeast on all subtests. Again as grade levels increased, reading medians remained stable, language medians improved, and mathematics medians declined.

Table 4

Summary of 1978-79 ITBS Results for Grades 1-3

		White						Hispanic						Black						All Races					
		R		L		M		R		L		M		R		L		M		R		L		M	
Subdistrict	Grade	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
Northwest	1	75	71	66	65	74	76	40	44	34	35	41	42	40	42	34	38	46	48	54	51	46	46	56	54
	2	74	78	73	72	78	70	34	35	30	30	37	38	34	35	35	39	28	30	48	49	49	46	47	45
	3	77	80	83	80	69	70	47	46	51	51	47	45	30	34	36	40	22	23	53	54	60	58	47	46
Northeast	1	75	75	58	62	68	73	30	38	30	31	41	38	54	57	34	43	46	46	62	61	46	49	56	56
	2	70	73	72	71	64	65	29	34	35	36	37	35	29	34	35	36	37	37	51	52	56	52	47	49
	3	72	73	78	74	62	62	34	37	40	41	30	27	30	34	36	38	22	21	50	51	54	55	38	40
Southeast	1	54	55	46	48	56	59	51	50	46	42	46	48	48	48	34	40	46	43	54	52	46	45	50	52
	2	58	57	56	53	51	50	51	53	56	52	37	38	38	43	44	44	28	31	51	51	49	49	43	42
	3	59	61	62	60	47	47	34	41	51	51	30	32	34	37	40	43	22	28	47	50	51	52	38	38
Southwest	1	62	60	52	51	60	63	40	45	34	37	50	53	58	57	52	51	56	55	54	54	46	46	56	57
	2	61	62	62	56	55	56	29	32	35	35	37	34	51	52	62	58	37	37	48	48	49	49	43	41
	3	62	63	65	65	55	55	34	35	40	42	30	31	47	44	57	57	30	34	47	47	54	55	38	40
East Oak Cliff	1													48	50	46	43	46	47	48	49	46	42	46	47
	2													48	46	56	51	37	34	48	46	56	51	37	34
	3													37	38	48	47	26	25	34	38	46	47	26	25
TOTAL	1	65	64	52	56	66	67	40	43	34	36	46	46	54	51	46	43	46	48	54	54	46	45	50	53
	2	67	67	64	62	60	60	29	35	35	35	37	36	43	43	49	48	37	34	48	49	49	50	43	42
	3	67	69	72	69	59	58	34	39	44	45	34	35	34	38	46	46	26	26	47	48	54	53	38	38

a = Median Percentile Score

b = Percent At or Above the National, Large-city 50th Percentile.

2. Median percentiles for Hispanic students were below norm on all three subtests at all three grade levels. In Grade 1 the mathematics median was higher than reading and language; in Grade 2 the reading median was lower than language and mathematics; in Grade 3 the language median was higher than reading and mathematics. As grade levels increased, reading and mathematics medians tended to decline and language medians to improve.

   Among subdistricts the highest median reading and language scores for Hispanic students occurred in the Southeast and the highest mathematics median occurred in the Northwest. As grade levels increased, reading medians improved in the Northwest and Northeast, and declined in the Southwest and Southeast; language medians improved in all subdistricts; mathematics medians improved in the Northwest and declined elsewhere.

3. Median percentiles for Black students were above norm in Grade-1 reading, near norm in Grade-1 mathematics, and near norm in language at all three grade levels. In Grade 1 the reading median was higher than language and mathemataics medians; in Grades 2 and 3 the language medians were higher than reading and mathematics medians. As grade levels increased, language medians remained stable, and reading and mathematics medians declined.

   Among subdistricts the highest median scores for Black students occurred in the Southwest and the lowest in the Northwest and Northeast. As grade levels increased, reading and mathematics medians declined in all subdistricts, and language medians improved notably in two of five subdistricts.

Percent above the 50th percentile. We feel that the best indication of the District's achievement level is given by the percent of students who attained scores at or above the national, large-city 50th percentile (at or above norm). Certainly this statistic is the easiest to comprehend and is less susceptible to erroneous interpretation.

A careful study of the percentages shown in column "b" of Table 4 leads us to the following statements.

1. A majority of White students scored above norm on all three subtests at all three grade levels. The highest or lowest percentages of students above norm were not uniform across subtests and grade levels. However, as grade levels increased, the percent of students above norm increased in reading and language and decreased in mathematics.

The Northwest Subdistrict had the highest percent of higher achieving White students on all three subtests at all three grade levels. The Southeast Subdistrict had the lowest percent in all instances. As grade levels increased, the percent of above-norm reading scores increased in the Northwest and Southeast; the percent of above-norm language scores increased in all subdistricts; the percent of above-norm mathematics scores decreased in all subdistricts.

2. A majority of Hispanic students scored below norm on all three subtests at all three grade levels. The highest or lowest percentages of students above norm were distributed non-uniformly over grade levels and subtests.

   A higher percent of Hispanic students scored above norm in reading in the Southeast and Northwest Subdistricts, and in language in the Southeast. As grade levels increased, the percent of above-norm language scores increased, and the percent of above-norm mathematics scores decreased.

3. A majority of Black students scored above norm in reading at Grade 1, and near norm in language at Grade 2 and in mathemataics at Grade 1. The highest percentage of students above norm occurred in reading at Grade 1, in language at Grades 2 and 3, and in mathematics at Grade 1. As grade levels increased, the percent of students above norm decreased in reading and mathematics.

   The Southwest Subdistrict had the highest percent of higher achieving Black students on all three subtests at all three grade levels. No subdistrict was noticeably lowest. As grade levels increased in all subdistricts, the percent of students above norm decreased in reading and mathematics.

Percent of students classified as below average, average, or above average. Students may be classified as scoring below average, average, or above average depending upon whether they scored below the 25th percentile, between the 25th and 75th percentiles, or above the 75th percentile, respectively. By definition, 25 percent of the national, large-city norming population scored in the lower and upper intervals, while the remaining 50 percent scored in the middle interval.

On the basis of this past year's results, District students in Grade 2 were distributed across these intervals as shown in Table 5. Here the testing results are cast in a somewhat different light. The data in this table support the following interpretations.

1. The percentages of second-grade White students who were classified as above average were higher than expected, given the norm group distribution. Also the percentages of these students classified as below average was lower than expected.

2. Among Black and Hispanic students the percentages classified as average were close to those found in the norm group. However, the percentages classified as below average were higher than expected. Except for Black students' performance on the language subtest, the percentages of minority students classified as above average were below norm-group performance.

3. Among all students considered district-wide, the percentages classified as above average were close to the national findings. On the other hand, the District had greater percentages of students classified as below average.

Table 5

Percent of Second Grade Students Classified
as Below Average, Average, and Above
Average on the ITBS

	Reading			Language			Mathematics		
	BA	AV	AA	BA	AV	AA	BA	AV	AA
White	20	40	40	19	43	38	18	47	35
Black	37	47	16	33	41	26	39	47	14
Hispanic	44	44	12	41	42	17	35	51	14
All Races	33	44	23	30	42	28	32	48	20

BA = Below Average
AA = Average
AA = Above Average

Basic Objectives Assessment Test (BOAT) Results

The BOAT was administered at Grade 3 early in 1979. This test is an objectives-referenced instrument designed to measure student progress toward mastery of basic skills in reading and mathematics as prescribed by the Baseline Documents.

The BOAT results for Grade 3 are summarized in Tables 6 and 7. White students answered more items correctly (82 percent) than did Hispanic students (72 percent), who in turn answered more items correctly than did Black students (68 percent).

In Table 7 the BOAT results are presented in a somewhat different fashion. Here, the percentages of students, by subdistrict, who successfully answered increasing percentages of items are presented. The table illustrates that performance began to fall off beyond 40 percent of the items correct and declined sharply beyond 50 percent correct. Among those items with which students in all subdistricts had the most difficulty, were the following:

1. adding fractions with unlike denominators,
2. comparing units of volume,
3. computing rectangular area,
4. identifying similar sounds in spelling,
5. knowing vocabulary, and
6. reading paragraphs with comprehension.

Longitudinal Achievement

In the previous section we considered only those data collected during spring 1979. In this section we consider those data again, only this time as part of a trend in achievement over years. Two types of

TABLE 6

Mean Percent Correct Items on BOAT for Grade 3[a]

District	White	Black	Hispanic	All Students
NW	84	66	74	76
NE	84	64	71	74
SE	80	67	72	74
SW	79	73	71	74
EOC[b]		69		69
DISD	82	68	72	73

[a] Number of items = 27.

[b] Since EOC is predominately Black, having too few students of other ethnicities on which to report individual results, only the results for Black and all students combined are reported.

TABLE 7

Percentages of Third-Grade Students Mastering Various Percentages of Items on BOAT[a]

District	10%	20%	30%	40%	50%	60%	70%	80%	90%
NW	99	98	96	92	86	77	70	54	30
NE	99	99	95	91	83	74	67	51	30
SE	99	98	95	92	85	76	67	49	23
SW	99	99	97	94	86	75	66	49	23
EOC	99	97	93	89	80	68	58	40	15
DISD	99	98	95	92	84	74	66	49	24

[a] Number of items = 27.

longitudinal data are discussed. The first of these, what we call quasi-longitudinal data, measures performance at the same grade level over two points in time. Within any particular grade level, the student populations for any two or more years are different and thus confounded with any presumed "educational" effect over the same years. In fact, if the quasi-longitudinal trends show positive or negative gains over years, then to be able to attribute these gains to instructional or curricular effects it is necessary to assume that the populations are essentially the same in all ways related to ability and achievement. We have already seen that the population for at least one class of students, those who entered first grade in 1976, experienced a dramatic change in membership over the last three years. Furthermore, we know that the ethnic proportions of Grades K-3 have changed considerably over the last several years with the percent White enrollment showing a sharp decline. To what extent these changes are related to achievement trends independently of educational effects can only be surmised.

The second type of longitudinal data we discuss, what we call cohort-longitudinal data, consists of test scores on the same individuals across grade levels over years. To a certain extent these data control for differences brought about by population shifts and are therefore more sensitive to District educational treatment effects. The interpretation of these data is not exactly clear-cut, however, for they are susceptible to a different source of confounding: that of selection bias. In order to clearly attribute trends in cohort-longitudinal results to corresponding trends in educational treatment, it is necessary to assume that the population shifts that have occurred in Grades K-3 have been random with respect to achievement and ability levels of students lost. If those students lost were poorer-achieving students than those who remained (a possibility for which we have some evidence) then at least some portion of any positive gains in achievement evidenced in the trend data would have to be attributed to this fact alone, independently of any positive educational effects. Of course, the converse also holds.

Grade Level Achievement Trends Over Years (Quasi Longitudinal)

Here we discuss achievement trends for each of the grade levels 1-3. In all cases except Grade 2, data for anlaysis came from the system-wide tests administered in spring 1978 and spring 1979. Because of the system-wide testing paradigms employed over the last several years, longitudinal data spanning a greater number of years were available only for Grade 2. Thus, for Grade 2 we compare achievement for the last two years with that reported for fall 1973.

Changes in grade level medians. The first set of data we look at are changes in median percentile rankings over years. Before doing so, however, we would like to point out that changes in percentiles signify different magnitudes of change in achievement level at different points along the percentile continuum. Thus, a change in percentiles at the ends of the continuum (1-25, 75-99, say) are to be interpreted as being more significant in terms of changes in achievement level than are changes around the mid-portion of the continuum (25-75, say). Also, changes in percentiles in a direction away from the mid-point can be regarded as more important than comparable changes in a direction toward the mid-point. To take a concrete example, a change from the 48th to the 58th percentile does not signify as great a change in achievement level as does a change from the 58th to the 68th percentile. Furthermore, a change from the 68th to the 58th percentile is usually not as important as a change from the 58th to the 68th percentile. The reasons for these differences in interpretation of percentile changes tend to be technical and thus beyond the scope of this presentation.

Median percentiles attained on the ITBS for groups of students in Grades 1-3 in fall 1973 (Grade 2, only) and spring 1978 and 1979 are displayed in Table 8. A close examination of this table leads to the following conclusions.

1. Median percentiles of White students improved in reading and mathematics and held steady in language at Grade 1. At Grade 2 White median percentiles showed a marked improvement in S78 (over F73) in reading and language, but declined just as markedly in S79. Mathematics, on the other hand, had declined in S78 (from F73) but rose dramatically in S79. At Grade 3 White median percentiles improved slightly over those in S78. This general pattern tended to prevail throughout subdistricts.

2. Among Hispanics median percentiles increased on all subtests at Grades 1 and 3 from S78 to S79. The most notable increases at these grade levels occurred in reading (Grade 1) and mathematics (Grades 1 and 3). At Grade 2 the median percentiles increased in reading from F73 to S78 but declined in S79; they increased in language from F73 to S79, and improved considerably in mathematics in S79 over S78, following a decline from F73.

3. Median percentiles for Blacks at Grades 1 and 3 rose in S79 over S78 in reading and mathematics, and held steady in language. At Grade 2 medians improved markedly in reading and language from F73 to S78 but declined in reading in S79. In mathematics at Grade 2 the median percentile declined slightly in S78 (from F73) but rose dramatically in S79.

Change in grade-level percent of students at or above norm. Earlier we stated that we feel the best indication of the District's achievement is the percent of students who scored at or above the national, large-city 50th percentile. Our statements there apply here as well.

TABLE 8

Changes in Median Large-City Percentile Rankings Over Years (ITBS, Grades 1-3)

Grade Level	Sub-district	Year	White			Hispanic			Black			All		
			R	L	M	R	L	M	R	L	M	R	L	M
Grade 1	NW	S78	77	66	74	30	30	36	48	34	36	54	46	46
		S79	75	66	74	40	34	41	40	34	46	54	46	56
	NE	S78	68	58	56	30	34	31	48	34	36	54	46	46
		S79	75	58	68	30	30	41	54	34	46	62	46	56
	SE	S78	54	46	46	30	30	41	30	34	36	40	34	41
		S79	54	46	56	51	46	46	48	34	46	54	36	50
	SW	S78	54	46	50	30	34	41	48	46	46	48	46	46
		S79	62	52	60	40	34	50	58	52	56	54	46	56
	EOC	S78							48	46	46	48	46	46
		S79							48	46	46	48	46	46
	Total DISD	S78	58	52	56	30	30	36	48	46	41	48	46	46
		S79	65	52	66	40	34	46	54	46	46	54	46	50
Grade 2	NW	F73	82	78	68	26	18	28	22	14	18	44	34	42
		S78	83	81	55	38	30	24	34	30	19	58	59	28
		S79	74	73	78	34	30	37	34	35	28	48	49	47
	NE	F73	74	68	62	34	24	36	24	14	18	50	36	40
		S78	78	81	47	43	30	19	43	30	19	64	69	28
		S79	70	72	64	29	35	37	29	35	37	51	56	47
	[illegible]	F73	58	54	52	46	34	40	30	20	20	48	40	42
		S78	67	73	37	48	49	19	48	49	19	58	64	28
		S79	58	56	51	51	56	36	38	44	28	51	49	43
	SW	F73	64	54	54	38	24	36	42	26	28	52	40	42
		S78	72	73	47	51	39	28	58	69	24	61	64	28
		S79	61	62	55	29	35	37	51	62	37	48	49	43
	EOC	F73							32	22	24	32	22	24
		S78							51	59	19	51	59	19
		S79							48	56	37	48	56	37
	Total DISD	F73	70	66	58	32	22	32	28	18	22	46	34	38
		S78	74	77	47	48	30	24	51	49	19	58	64	28
		S79	67	64	60	29	35	37	43	49	37	48	49	43
Grade 3	NW	S78	75	76	62	30	40	30	24	36	22	47	54	38
		S79	77	83	69	47	51	47	30	36	22	53	60	47
	NE	S78	67	70	55	30	36	30	24	40	14	47	54	38
		S79	72	78	62	34	40	30	30	36	22	50	54	38
	SE	S78	53	62	47	37	49	22	27	40	18	43	54	30
		S79	59	62	47	34	51	30	34	40	22	47	51	38
	SW	S78	62	62	47	30	40	26	40	62	22	43	54	30
		S79	62	65	55	34	40	30	47	57	30	47	54	38
	EOC	S78							30	46	22	30	46	22
		S79							37	48	26	34	46	26
	Total DISD	S78	64	70	55	30	40	26	30	46	22	40	54	30
		S79	67	72	59	34	44	34	34	46	26	47	54	38

R = Reading
L = Language Arts
M = Mathematics

Note: Blanks indicate the absence of enough test scores on which to base meaningful computations.

Thus, in Table 9 we display the percentages of students, classified by ethnicity, grade level and subdistrict, who scored at or above norm on the reading, language, and mathematics subtests on the ITBS. As in the previous sections, the data are from system-wide administrations of the ITBS in fall 1973 (Grade 2 only) and spring 1978 and 1979. After examining this table we reached the following conclusions, all of which are in agreement with those reported above.

1. Among White students higher percentages of higher achievers were found in S79 (than in S78) on all subtests at Grades 1 and 3, although in general these differences were not great. At Grade 2 the percentages of Whites at or above norm were lower in S79 (than in S78) in reading and language while the reverse was true in mathematics. In S78, percentages of higher achievers in reading and language had increased over those in F73, while the percentage in mathematics had decreased from F73. In general these patterns prevailed across subdistricts.

2. The percentages of Hispanic students at or above norm increased on all subtests from S78 to S79 at Grades 1 and 3. At Grade 2, however, the percentage of higher scoring students rose sharply in reading and language in S78 (over F73), then declined in S79. In mathematics the percent of higher-achieving Hispanics declined in S78 (from F73) but more than recovered in S79. Although slight differences were evident across subdistricts, these general patterns tended to prevail.

3. The percentages of Black students at or above norm increased in mathematics at Grade 1 and in reading and mathematics at Grade 3 from S78 to S79. At Grade 2 there was a dramatic increase in the percent of scores at or above norm in reading and language in S78 (from F73). In S79 there was a lower percent (but well above F73) of higher scores in reading than in S78; language scores remained stable from S78 to S79. The pattern in mathematics at Grade 2 was quite different however. Here the percent at or above the norm decreased in S78 (from F73) but showed a large increase in S79. Again these patterns were generally true across all subdistricts.

Achievement Trends of Same Students over Years (Cohort Longitudinal)

In this section we discuss the achievement growth of given cohorts over two years (from spring 1978 to spring 1979). A cohort was defined

TABLE 9

Changes in Percent of Students Above Norm over Years (ITBS, Grades 1-3)

Grade	Sub-district	Year	White			Hispanic			Black			All		
			R	L	M	R	L	M	R	L	M	R	L	M
Grade 1	NW	S78	71	63	74	39	25	34	49	38	36	53	42	47
		S79	71	65	76	44	35	42	42	38	48	51	45	54
	NE	S78	66	60	62	36	29	30	50	35	36	55	46	47
		S79	74	62	73	38	31	38	57	43	46	61	49	56
	SE	S78	50	43	47	31	28	30	38	33	31	45	38	41
		S79	55	48	59	50	42	48	48	40	43	52	45	52
	SW	S78	52	44	52	38	31	37	48	46	44	46	41	45
		S79	60	51	63	45	37	53	57	51	55	54	46	57
	EOC	S78							49	45	43	49	45	43
		S79							50	43	47	49	42	47
	Total DISD	S78	59	52	57	37	28	34	48	41	40	49	42	45
		S79	64	56	67	43	36	46	51	43	48	54	45	53
Grade 2	NW	F73	79	74	71	21	17	28	15	8	18	46	40	44
		S78	85	79	55	44	38	15	40	37	14	58	53	29
		S79	79	72	70	35	30	38	35	39	30	49	46	45
	NE	F73	75	66	63	35	22	34	17	11	17	48	40	43
		S78	81	77	48	44	38	15	49	42	12	62	57	29
		S79	73	71	65	34	36	35	34	36	37	52	52	49
	SE	F73	59	55	54	44	33	34	29	15	21	48	39	42
		S78	69	64	32	46	49	12	47	45	13	59	56	23
		S79	57	53	50	53	52	38	43	44	31	51	49	42
	SW	F73	66	53	55	36	24	33	36	27	25	51	39	42
		S78	72	65	40	50	45	19	60	60	16	61	57	24
		S79	62	56	56	32	35	34	52	58	37	48	49	41
	EOC	F73							32	20	23	32	19	23
		S78							52	51	16	52	51	16
		S79							46	51	34	46	51	34
	Total DISD	F73	70	63	61	32	21	31	26	15	20	45	36	38
		S78	76	71	43	47	41	16	51	49	15	58	53	24
		S79	67	62	60	35	35	36	43	48	34	49	50	42
Grade 3	NW	S78	79	78	68	28	38	28	27	36	21	45	52	40
		S79	80	80	70	46	51	45	34	40	23	54	58	46
	NE	S78	74	72	60	29	35	28	24	38	20	48	54	40
		S79	73	74	62	37	41	27	34	38	21	51	55	40
	SE	S78	55	60	43	38	47	23	27	39	16	44	51	31
		S79	61	60	47	41	51	32	37	43	28	50	52	38
	SW	S78	62	60	45	31	42	23	39	56	23	44	53	30
		S79	63	65	55	35	42	31	44	57	34	47	53	40
	EOC	S78							31	44	19	31	44	19
		S79							38	47	25	38	47	25
	Total DISD	S78	67	67	53	31	40	26	30	44	20	42	51	32
		S79	69	69	58	39	45	35	38	46	26	48	53	38

R = Reading
L = Language Arts
M = Mathematics

Note: Blanks indicate the absence of enough test scores on which to base meaningful computations.

as a group of students on whom test scores were available at two points in time. For the grade levels considered in this report, two cohorts were identified: a Grade 1-2 cohort (measured at Grade 1 in 1978 and at Grade 2 in 1979), and a Grade 2-3 cohort (measured at Grade 2 in 1978 and at Grade 3 in 1979). Because first-grade students were not tested in 1976-77, a Grade 1-3 cohort could not be identified.

Comparison of growth rates with expected growth rates. By using the norms tables provided with the ITBS, it was possible to compute the expected rate of growth for each of the classifications given in Table 10. The actual growth rates could then be compared to their expected growth rates. After studying this table we conclude that, district-wide, achievement growth in the Grade 1-2 cohort exceeded expected growth in language arts and equalled expected growth in reading and mathematics. For the Grade 2-3 cohort, actual achievement exceeded expected achievement in mathematics but lagged behind expected growth in reading and language arts. These patterns generally prevailed across all subdistricts except the Northwest and Northeast. In the Northwest, achievement on all subtests equalled expected achievement in the Grade 1-2 cohort, while in the Grade 2-3 cohort reading and language arts achievement equalled expected achievement and mathematics achievement was better than expected. In the Northeast, reading and mathematataics achievement in the Grade 1-2 cohort equalled expected growth, and language achievement exceeded expected growth. For the Grade 2-3 cohort mathematics achievement was at the expected level, but reading and language achievements were lower than expected.

TABLE 10

Summary of Cohort Achievement over Grades 1-2 and 2-3

Sub-district	Cohort	White			Black			Hispanic			All		
		R	L	M	R	L	M	R	L	M	R	L	M
NW	1-2	B+	B+	A+	C-	A-	B-	B-	A-	A	B	B	B
	2-3	B+	B+	A+	B-	A-	B-	B	A	A	B	B+	A
NE	1-2	B+	A+	B+	C-	A-	B	B-	A	B	B	A+	B
	2-3	B+	C+	A+	C-	A-	B-	C-	B	B-	C	C	B
SE	1-2	B+	A	B	B	A	B-	A	A	B	B	A	B
	2-3	C+	C+	A	C-	C-	B-	C-	C	B-	C	C	A
SW	1-2	A+	A+	B	B	A+	B	B-	A-	B	B	A	B
	2-3	C+	C+	B	C	C	B-	C-	B	B-	C	C	A
EOC	1-2				B	A+	B-				B	A	B
	2-3				C-	C	B-				C	C	A
DISD	1-2	B+	A+	B+	B	B	B	B-	A-	B	B	A	B
	2-3	B+	C+	A+	C-	C	B-	C-	A	A	C	C	A

R = Reading, L = Language Arts, M = Mathematics

+ = Ended up above norm, - = Ended up below norm

A = Exceeded growth of the norm group at appropriate place in distribution

B = Equalled growth of the norm group at appropriate place in distribution

C = Lagged behind growth of the norm group at appropriate place in distribution

Comparison of achievement of students retained vs. students lost or gained. Median percentiles for both cohorts and non-cohorts at Grades 1-3 are displayed in Table 11. Cohort students were identified as those for whom both pretest and posttest scores existed. Non-cohort students are those who could be identified as having been pretested or posttested but not both. The reasons explaining the presence of non-cohort students could be manifold; four are listed here: (1) after a student was pretested, he left the district before he was posttested, (2) a student was available for posttesting only, having recently entered the district, (3) a student was not in attendance at school for one of the testings, and (4) a student's identification codes were erroneous on at least one testing record so that his records could not be matched across time. For the sake of brevity, reasons (1) and (2) will be used to describe all cases in the discussion below.

1. Of the 30 possible pretest comparisons, cohort students outperformed non-cohort students in 22 (73%) instances. This suggests that retained students were better achievers than lost students.

2. When considering the posttest performances, we find that cohort students, on the average, outperformed their non-cohort counterparts in 16 out of 30 (53%) comparisons, and were equivalent in 5 (16%) of the comparisons. Thus, retained students could be said to have been better achievers than those who were new to (gained by) the District.

Technical Examination of Grade 2 Achievement Results

Earlier we noted an apparent discrepancy in the results on the reading and mathematics subtests of the ITBS at Grade 2 between 1978 and 1979. To recapitulate, in spring 1978 all Grade 2 students were

TABLE 11

Median Percentile Scores of Cohorts and Non-cohorts

	Reading				Language				Mathematics			
	Cohort		Non-cohort		Cohort		Non-cohort		Cohort		Non-cohort	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Grade 1, Spring 1978 to Grade 2, Spring 1979												
NW	54	48	54	51	46	49	46	49	46	47	46	47
NE	58	55	48	48	46	62	40	49	50	51	46	47
SE	48	51	40	48	46	56	34	49	46	43	41	43
SW	54	51	40	43	46	56	34	49	46	43	46	47
EOC	54	48	40	38	46	56	34	49	46	37	36	37
Grade 2, Spring 1978 to Grade 3, Spring 1979												
NW	61	53	60	53	64	63	59	57	46	47	46	47
NE	64	50	61	40	69	57	64	44	32	38	28	30
SE	58	47	58	53	64	51	59	54	28	38	28	42
SW	61	47	60	47	69	57	64	51	28	38	32	38
EOC	51	36	48	34	59	48	49	40	24	26	19	26

administered Level 7 of the ITBS; on the percentile scale median reading scores rose dramatically while median mathematics scores declined more than moderately, when compared to the test results from the previous year. When these results were reported last year, one was left with having to decide between two alternatives: either classroom instruction had effectively shifted in emphasis from mathematics to reading (and language, i.e., spelling), or the shift from fall testing to spring testing involved new percentile norms favoring reading at the expense of mathematics.

This past year (spring 1979) we changed our testing policy again, so that all Grade-2 students were assigned to take Level 8 of the ITBS. When we examined test results, we observed that reading and language scores had declined somewhat and that mathematics scores had improved notably. This led us to examine the tables of published norms more closely. What we found were reasons persuading us that Grade-2 norms are not appropriate for Level 7; the percentile scale is manifestly skewed.

We, therefore, conclude that when Grade 2 was tested on Level 7 in 1978:

1. the reading test was so easy that a large percent of local students scored high; since norm-score depression from topping out was not severe enough to be noticed, the resulting median percentile score was high enough to do us proud, making us want to accept it as a reliable measurement; and
2. The math test also was so easy that a large percent of students scored high; but the norming group had found the test even easier than local students did, so that the percentile scores were badly depressed.

By comparison, when Grade 2 was tested on Level 8 in 1979, the local median student performed at the middle of the raw percentage scale on both reading and mathematics, resulting in a lower but truer reading median and in a higher but truer mathematics median. Thus, we believe that the most recent medians (1979) are better measurements than were the earlier medians (1978) and that Level 7 unfairly flatters students in reading and unfairly penalizes them in mathematics.

Summary

We arrive at the following conclusions regarding the system-wide test administration at Grades 1-3.

1. Substantial increases in language and reading achievement on the ITBS were noted for the elementary grades in 1978. Mathematics achievement, on the other hand, showed declines. Evidence now exists, however, that because of the test level assigned to Grade 2 in 1978 achievement was overestimated in reading and underestimated in mathematics. In 1979, with the assignment of a higher test level, validity of scores was improved. A lower reading median and a higher mathematics median, both representing truer scores, were found for Grade 2 in 1979.

2. In general, performance of elementary students (Grades 1-3) on the ITBS showed improvement for 1979. This held true across grade levels for the major ethnic groups in reading, language, and mathematics. Thus, gains in reading and language which were noted in 1978 were either maintained or improved upon in 1979. Mathematics achievement, compared to 1978, showed an upward turn.

3. Achievement growth on the ITBS for Grade 1-2 and Grade 2-3 cohort groups generally equalled expected growth or exceeded it. This result was generally true for all ethnic groups as well as for the District as a whole.

4. Cohort groups tended to score better on the ITBS than non-cohort groups, which probably indicated that those students "retained" in the District's schools showed better achievement than those "not retained."

5. The trend of improving test performance also held for the quasi-longitudinal analyses at Grades 1-3. For those analyses there were no controls for changes over time in student populations. Thus, improvements in achievement were manifest despite the influence of factors (i.e., longitudinal enrollment trends and student turnover) which acted to depress District-wide achievement scores.

6. For spring 1979 in Grades 1-3, a majority of White students scored above norm on all subtests and grades. The majority of Hispanic students scored below norm on all subtests at all grade levels. A majority of Black students scored above norm in reading at Grade 1, and near norm in language at Grade 2 and in mathematics at Grade 1. Otherwise, test scores of Black students were below norm.

7. Scores on the ITBS for first-grade students were highest for reading and mathematics and lowest in language. Second- and third-grade scores were highest in reading and language and lowest in mathematics.

8. BOAT results District-wide for third-grade students were encouraging in that the average percent of items answered correctly was 73. The average percent correct was 82, 72, and 68 for White, Hispanic, and Black students, respectively.

9. Percentile interpretations across grade levels are affected by differing norm groups and changing group populations. Since there is evidence to suggest that the District is retaining better students than it is losing, it is quite remarkable that the so-called cumulative deficit (based on cross-sectional data) is present in less than half of the comparisons.

An Interpretative Analysis of System-wide Achievement Data, 1978-79
Grades 4-6

George H. Olson and James A. Meier

The purpose of this report is to provide a summary and interpretation of system-wide achievement results for Grades 4-6, contained in the following Research and Evaluation reports.

1. Norm-referenced Performance Profiles 1979 (Meier, Whitmore, and Olson, IR79-006-31-30 through IR79-006-36-30).
2. Quasi-Longitudinal Achievement Trends 1973-79 (Meier and Eberhart, IR79-008-31-30 through IR79-007-35-30).
3. Cohort-Longitudinal Achievement Trends 1976-79 (Meier and Ebernart, IR79-008-31-30 through IR79-008-35-30).
4. Basic Objectives Assessment Tests Profiles 1979 (Meier, IR79-009-31-26 through IR79-009-36-26).

In interpreting the achievement results summarized in these documents, we also make use of results contained in the following documents.

5. 1978-79 School Holding Power Study (Marcus and Julian, IR79-012-31-10).
6. Eleven-year Enrollment Trends (Sheehan and Berry, IR79-091-31-05).
7. Enrollment Projections for 1979-83 (Sheehan and Berry, IR79-088-31-05).

Context

Desegregation

On 7 April 1976, the U.S. District Court for the Northern District of Texas, Dallas Division, divided the DISD into six subdistricts and established a system of uniform grade configurations, one of which consisted of 4-6 schools. The Court Order also held that four of the six subdistricts were to approximate the district-wide ethnic composition within plus or minus 5 percent. Of the two remaining subdistricts, one, East Oak Cliff, was to be left almost entirely Black, and one, Seagoville, was to be left majority White.

Of the four subdistricts involved in the requirement to achieve ethnic parity with the total district, one, the Southwest Subdistrict, was to a large extent already naturally integrated and thus only moderately involved in the court-ordered desegregation plan. The remaining three subdistricts were to be heavily involved.

The Court Order ruled that ethnic parity in the involved subdistricts would be established by bussing students of all ethnicities in Grades 4 through 8. This resulted in over 16,000 students being bussed for purposes of desegregation when school opened in August, 1976. Thus since the beginning of the 1976-77 school year, District fourth, fifth, and sixth graders have experienced a situation unprecedented in DISD history. For the first time ever, large numbers of these students, of all ethnicities, began being transported by bus from their own neighborhoods to schools elsewhere in the District in order to achieve an ethnically balanced student body.

This redistribution had notable effects on individual schools' average achievement levels as measured by system-wide tests. Historically, minority children have scored lower than White children on the tests. Accordingly, following the implementation of the court ordered desegregation plan, many schools that formerly were mostly White and now ethnically balanced, experienced declines in school-wide average achievement-test performance primarily due to the influx of large numbers of lower test-scoring students. It is important to note that the decline was not necessarily due to falling test scores within ethnic groups.

Enrollment Data

We turn now to an examination of enrollment trends, by subdistrict and ethnicity, over the last several years, for these data are important to our understanding of the District's achievement trends. Enrollment trends, along with enrollment projections, have been plotted in Figures 1-5, for five subdistricts (Seagoville has been pooled with the Southeast Subdistrict). From these graphs we conclude that, from 1968, Grade 4-6 enrollment has declined drastically in both the Northwest and Northeast Subdistricts; declined more gradually until 1976 in the Southeast and East Oak Cliff Subdistricts, whereafter it tended to level off; and has actually increased, since 1976, in the Southwest Subdistrict.

When we compare enrollment trend data for different ethnic groups, we find that White enrollment in Grades 4-6 has declined sharply in all subdistricts except East Oak Cliff, where the numbers of White students were small to begin with. On the other hand, the enrollment of minority students has held more or less steady in all subdistricts except the Southwest Subdistrict, where both Black and Hispanic enrollments have increased steadily, and the Northwest Subdistrict, where Hispanic enrollment has increased gradually and Black enrollment has decreased gradually.

Since a fairly large difference in test score performance exists between White and minority students, with White students typically performing better, the much greater proportional decline in White

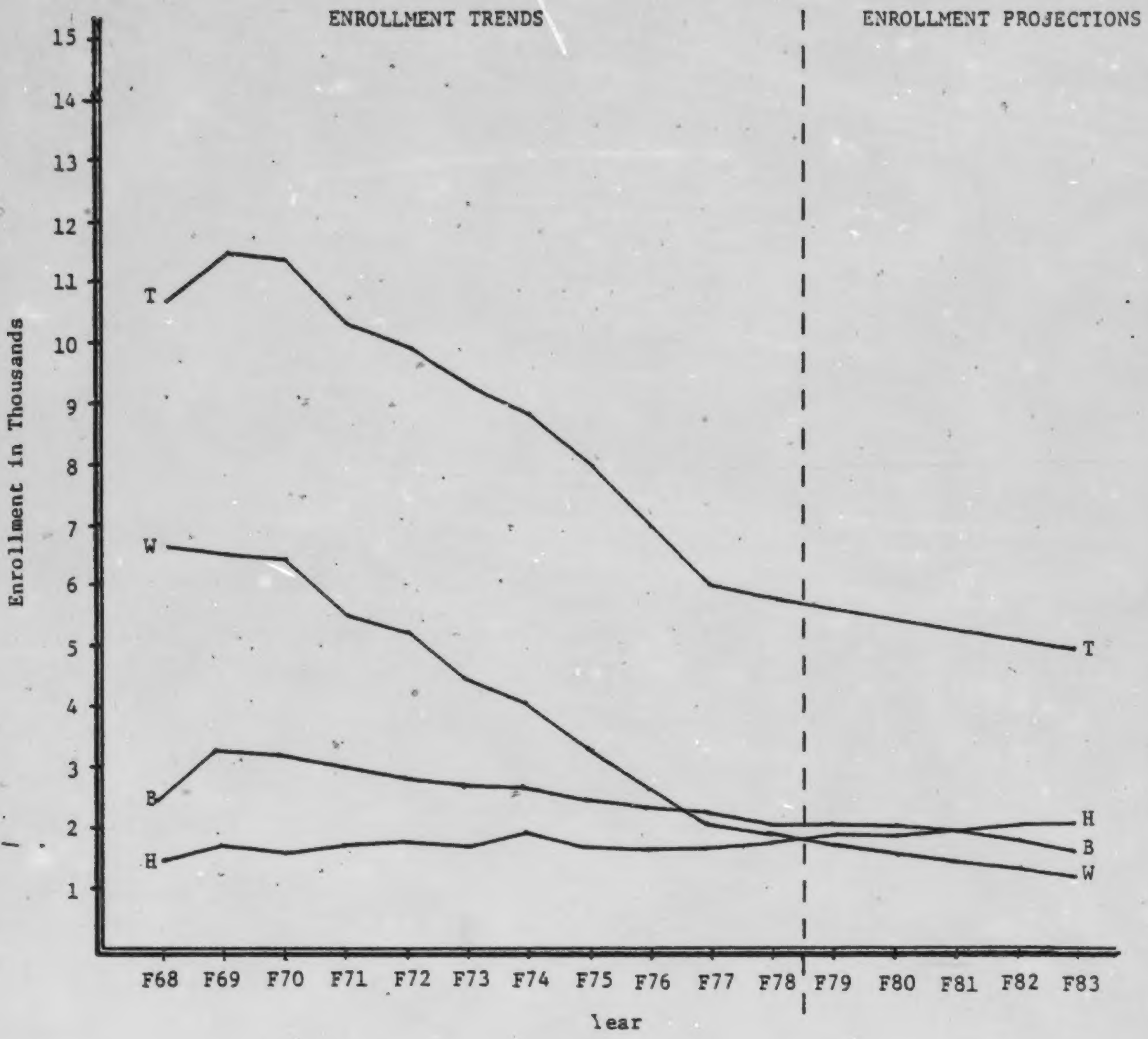

Figure 1

Enrollment Trends and Projections
Northwest Subdistrict
Grades 4-6

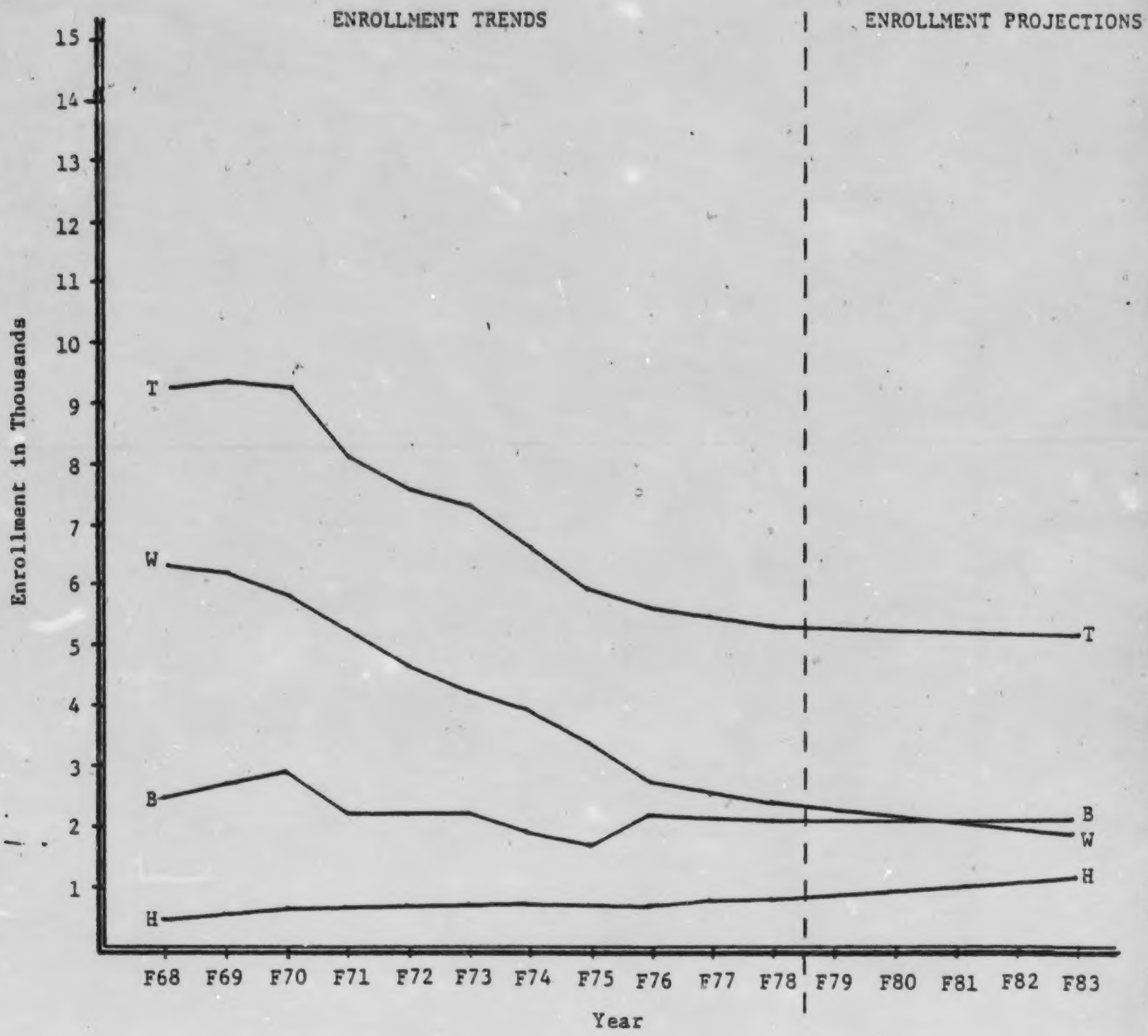

Figure 2

Enrollment Trends and Projections

Northeast Subdistrict
Grades 4-6

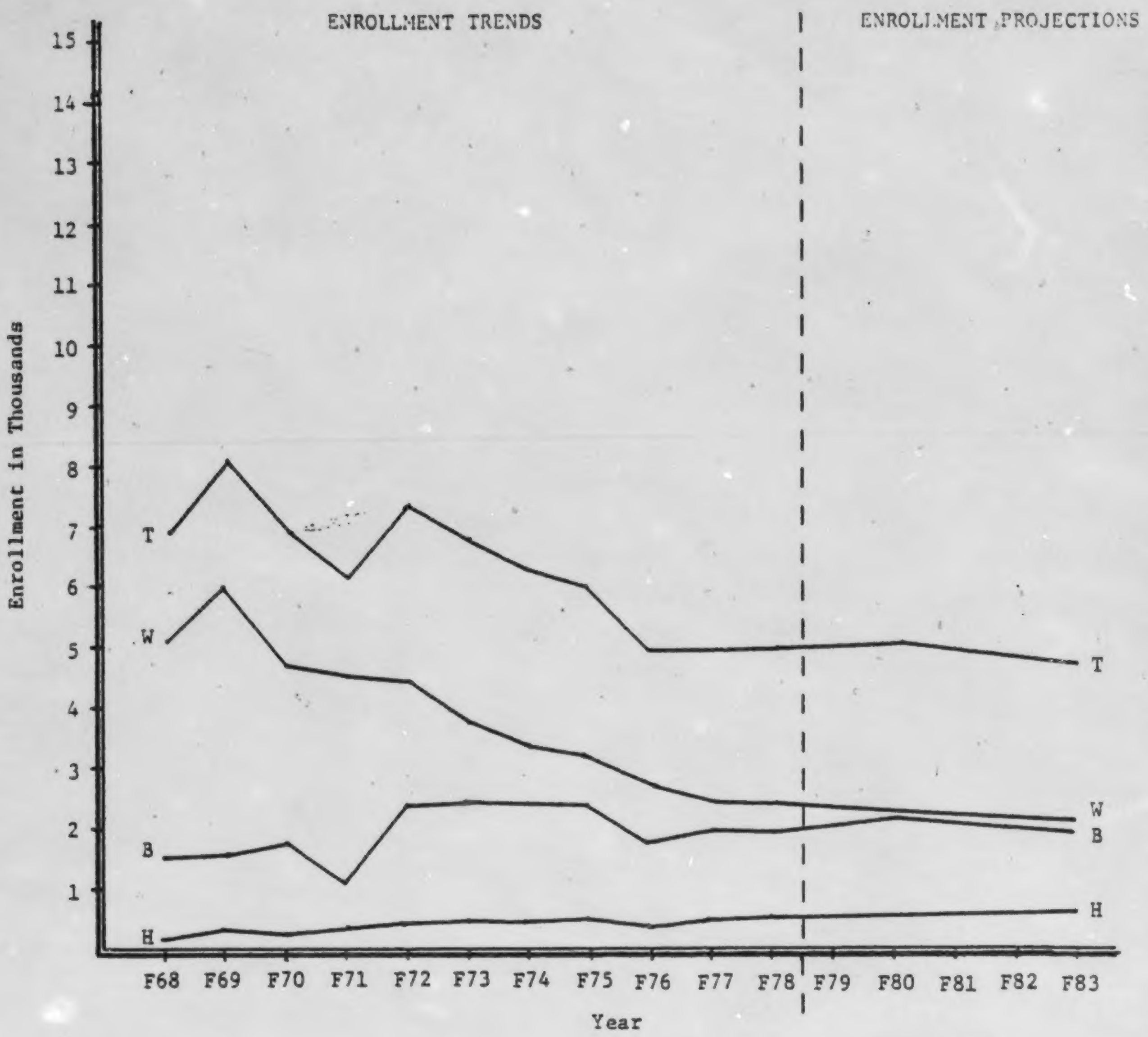

Figure 3

Enrollment Trends and Projections
Southeast Subdistrict
Grades 4-6

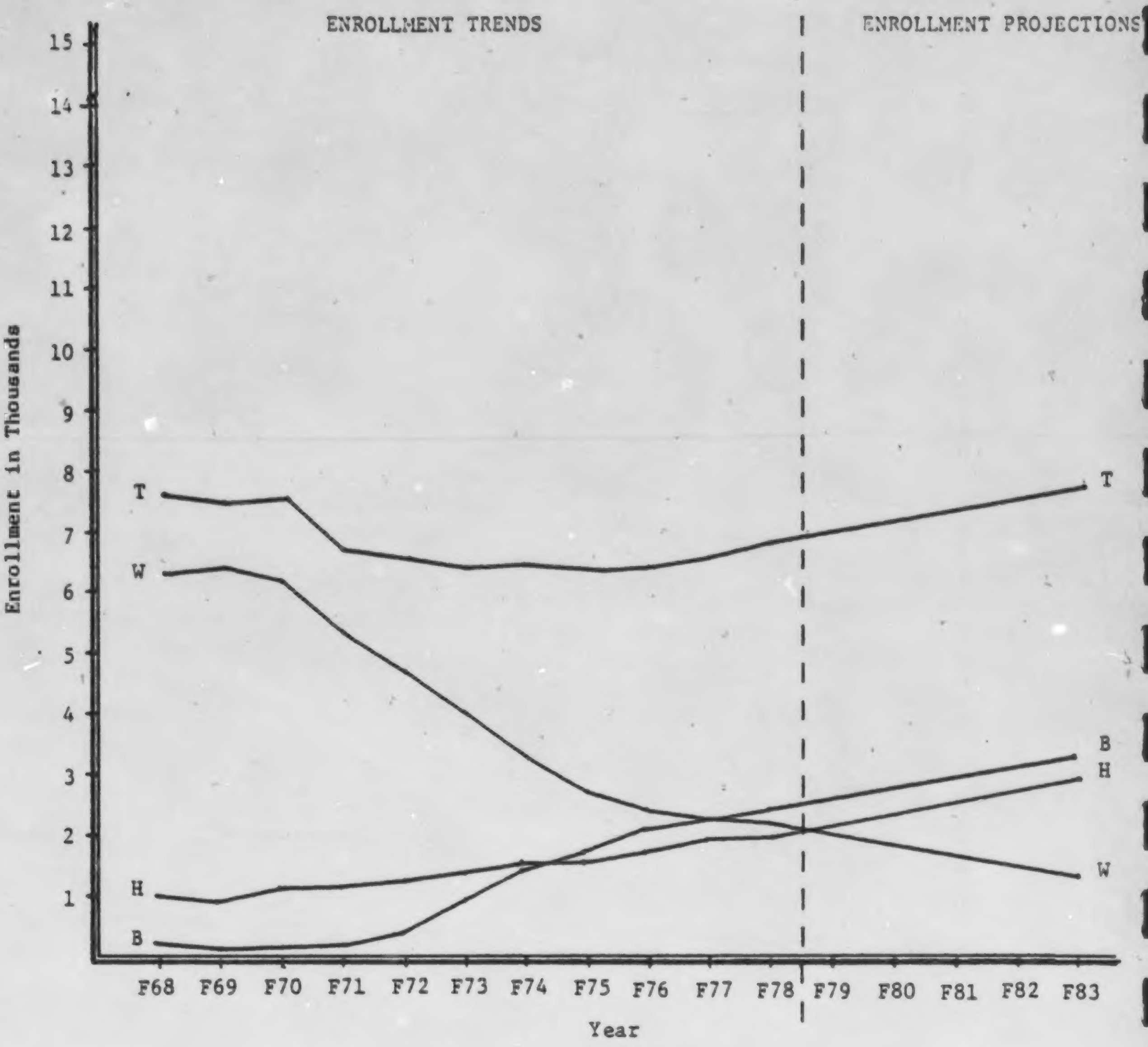

Figure 4

Enrollment Trends and Projections

Southwest Subdistrict
Grades 4-6

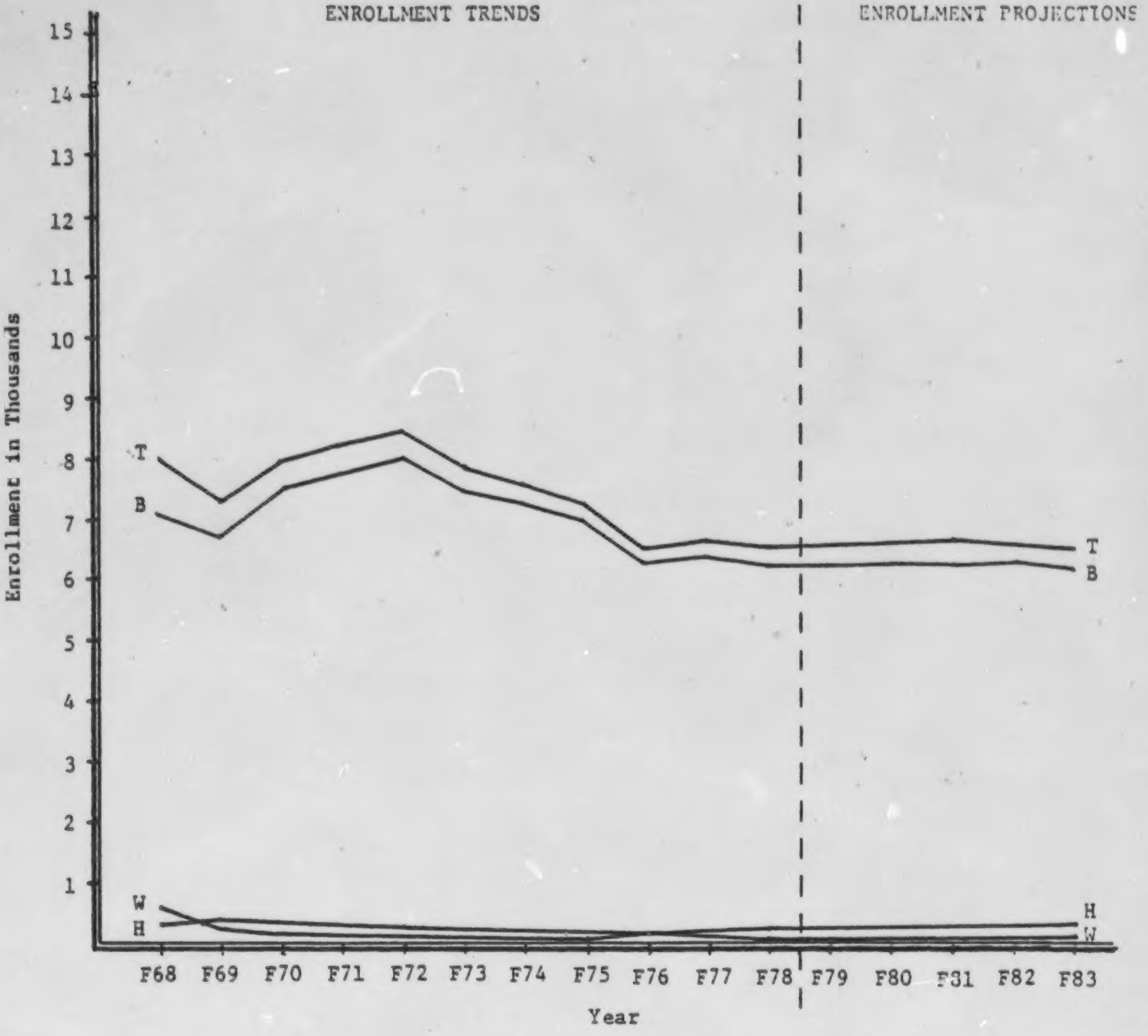

Figure 5

Enrollment Trends and Projections

East Oak Cliff Subdistrict
Grades 4-6

enrollment historically has contributed substantially to the overall decline in District-wide test performance at these grade levels.

Student Turnover

Another phenomenon, related to enrollment, that should be taken into account when interpreting the achievement results reported in this document is the mobility of the District's student population. While enrollment trends show changes in net enrollment over years, they do not yield information on the number of individual students who are lost or gained over time. To study these changes it is necessary to identify the membership of given groups of students over years as has been done in Table 1. In this table we compared the Grade 4 membership in the fall of 1976 with the Grade 6 membership in the spring of 1979. Students who were enrolled in 1976 and still enrolled in 1979 were labeled "retained" students. Students enrolled in 1979 but not enrolled in 1976 were considered new or "gained" students.

Table 1 implies a considerable amount of student turnover in Grades 4-6. Thus, we see that although membership in this group of students showed a slightly negative net gain, nearly 30 percent of the original group members (in 1976) were no longer enrolled in 1979. On the other hand, over 23 percent of the group members were new as of 1979. Clearly this represents a significant change in the 4-6 student population over just three years. What effect this has had on district achievement trends can only be surmised. However, as we shall see later, there may be some evidence to suggest that those students whom the District retained were better achievers than those whom it either lost or gained.

TABLE 1

Changes in Student Population from the Expected Enrollment for Grade 4, Fall 1976 to Grade 6, Spring 1979

		Retained[a]		Gained[b]		Net[c]	
Ethnicity		N	%	N	%	N	%
	Male	2033	83.70	481	19.10	85	3.50
BLACK	Female	2024	83.95	445	17.98	58	2.41
	Total	4057	83.82	926	18.55	143	2.95
	Male	1112	53.64	487	30.55	-474	-22.86
OTHER	Female	1005	53.57	425	29.89	-446	-23.77
	Total	2117	53.61	912	30.24	-920	-23.30
	Male	622	72.58	242	27.85	7	.82
HISPANIC	Female	596	74.04	215	26.58	6	.74
	Total	1218	73.29	457	27.23	13	.78
	Male	3767	70.29	1210	24.29	-382	-7.13
TOTAL	Female	3625	71.19	1085	23.06	-382	-7.50
	Total	7392	70.73	2295	23.69	-764	-7.31

[a] This column represents retentions from the spring of 1976, Grade 3 to the spring of 1979, Grade 6.

[b] This column represents gains to the 1979, Grade 6 population due to new students entering the DISD after the spring of 1976, Grade 3.

[c] This column represents changes relative to the spring of 1976, Grade 3 population.

1978-79 Achievement

In this section we summarize the District's achievement for the 1978-79 school year in Grades 4-6. It should be pointed out that, for the purpose of this report, achievement is rather narrowly defined as performance on one or more of the test batteries administered by the District's System-wide Testing Program. In 1978-79 the system-wide testing paradigm was as shown in Table 2. Achievement results will be presented for the ITBS and BOAT, in turn.

TABLE 2

Numbers of Students in Grades 4-6 Tested in 1978-79
by Grade Level and Test Battery

	Grade Level		
	4	5	6
ITBS Level 9	5,336	1,669	910
ITBS Level 10	4,233	4,301	1,541
ITBS Level 11	83	3,075	3,709
ITBS Level 12		424	2,536
ITBS Level 13			387
BOAT			9,107

Iowa Tests of Basic Skills (ITBS) Results

The test results for the ITBS, at grades 4-6, are summarized in Table 3 by district, subdistrict, grade level, ethnic classification, and subtest. This table displays two types of information: (a) percentile ranks of median scoring students, and (b) the percentages of students who scored at or above norm, i.e., at or above the national, large-city 50th percentile, for each level of classification in the table.

Median percentile scores. The median percentile scores displayed in column "a" of Table 3 give the national, large-city percentile scores attained by the middle-scoring students in a group defined by a given level of classification in the table. By definition a median percentile of 50 is equivalent to the score attained by the middle-scoring student in the national, large-city norming population.

Besides providing a rough index of the level of group performance on the ITBS, median percentiles allow us to compare performance levels across subtests. Thus if the median student in a group scores at a higher percentile in reading than in mathematics, he is said to have performed better in reading than in mathematics. Accordingly, after examining the median percentiles in Table 3, we arrive at the following conclusions.

1. Median percentiles for White students were close to or above norm on all three subtests at all three grade levels. Generally median performance in reading and language was superior to that in mathematics. There was a noticeable trend toward lower median percentiles at higher grade levels.

   Among subdistricts the highest median performance for White students occurred in the Northwest and the lowest in the Southeast on all subtests. Again a general pattern of lower median percentiles at higher grade levels was observed in all subdistricts, although in the Northwest this was not as pronounced.

2. Median percentiles for Hispanic students were below norm on all three subtests at all three grade levels. Generally median performance in language was superior to that in reading, which in turn was superior to that in mathematics. There was a noticeable trend toward lower median percentiles at higher grade levels.

TABLE 3

Summary of 1978-79 ITBS Results for Grades 4-6

		White						Hispanic						Black						All Races					
		R		L		M		R		L		M		R		L		M		R		L		M	
		a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
	4	73	78	76	78	73	73	26	24	31	34	22	30	20	20	21	25	15	21	39	42	47	47	36	42
NW	5	74	74	73	78	74	70	24	18	32	31	21	23	15	15	16	23	11	17	36	37	43	45	34	37
	6	69	69	72	71	74	69	19	18	26	26	20	23	12	10	11	16	8	13	26	33	38	37	29	36
	4	68	68	68	70	57	60	26	29	38	39	22	29	19	19	18	25	10	17	42	43	49	48	36	39
NE	5	64	63	63	66	52	54	24	26	32	32	21	25	11	11	11	18	4	11	36	38	38	43	24	33
	6	53	53	56	56	49	49	26	21	28	33	29	32	11	8	11	16	6	14	28	30	33	37	26	32
	4	55	57	58	60	47	50	31	34	44	43	28	31	29	30	38	38	18	23	44	45	51	50	32	38
SE	5	46	46	50	51	37	38	26	23	38	34	21	18	19	18	21	26	7	15	33	33	38	40	21	27
	6	41	41	43	41	35	37	26	21	28	29	20	17	19	14	21	23	8	11	28	29	33	33	20	25
	4	58	61	62	61	43	47	29	28	38	38	18	23	34	32	47	46	22	28	39	40	49	48	28	32
SW	5	49	50	52	52	40	41	19	16	27	28	15	17	28	27	32	36	15	20	31	31	35	39	21	26
	6	48	50	51	50	40	42	19	18	24	22	14	16	22	20	30	29	16	19	28	28	33	33	20	25
	4													29	26	34	34	15	21	26	26	31	34	15	21
EOC	5													21	20	24	27	11	16	21	20	24	27	11	16
	6													17	16	21	25	8	12	19	16	21	26	8	12
	4	63	65	66	67	57	57	26	27	34	37	22	26	26	26	21	34	15	22	36	39	44	45	28	34
TOTAL	5	57	57	59	61	47	50	23	19	30	30	15	20	19	19	21	27	11	16	31	31	35	38	21	28
	6	51	52	53	53	49	48	20	19	26	26	18	21	15	14	19	23	8	14	26	27	30	33	18	26

a = Median National Large-city Percentile

b = Percent at or above the National Large City 50th Percentile

Among subdistricts the highest median performance for Hispanic students occurred in the Southeast; otherwise median performance was comparable across subdistricts except mathematics median percentiles were noticeably lower in the Southwest.

3. Median percentiles for Black students were below norm on all three subtests for all grade levels. Generally median performance in reading and language was comparable, while performance in mathematics was noticeably lower. There was a noticeable trend toward lower median percentiles at higher grade levels.

   Among subdistricts the highest median performance occurred in the Southwest and the lowest in the Northeast. This pattern held generally on all three subtests for all three grades.

Percent above the 50th percentile. We feel that the best indication of the District's achievement level is given by the percent of students who attained scores at or above the national, large-city 50th percentile (at or above norm). Certainly this statistic is the easiest to comprehend and is less susceptible to erroneous interpretation.

A careful study of the percentages shown in column "b" of Table 3, leads us to the following statements.

1. A majority of the White students scored above norm on all three subtests at each grade level except grade 6, where in mathematics 48% were above norm. The table also shows that the percent of students at or above norm decreased with increasing grade level. There were more higher scoring students in language than in reading and more in reading than in mathematics.

   The Northwest Subdistrict had the highest percent of higher achieving students on all three subtests at all three grade levels; the Southeast Subdistrict had the lowest percent in all instances. Again the tendency toward fewer higher achievers at higher grade levels was prevalent across all subdistricts.

2. A majority of Hispanic students scored below norm on all three subtests in all three grades. A higher percent of students scored above norm in language than in reading and mathematics. A higher percent of students scored above norm in the lower grades than in the higher grades.

   Among subdistricts a higher percent of Hispanic students scored above norm in the Southeast, and more scored below norm in the Southwest, than in other subdistricts. This pattern was not uniformly true on all three subtests in all three grades.

3. The performance of Black students on all three subtests was generally low, especially at higher grade levels. At all grade levels there was a higher percentage of higher achievers on the language subtest than on the other two tests. Percentages of higher achievers in mathematics were slightly lower than the corresponding percentages in reading.

   In terms of the percent of Black students at or above norm the best performance was observed in the Southwest Subdistrict and the lowest in the Northeast Subdistrict.

Percent of students classified as below average, average, or above average. Students may be classified as scoring below average, average, or above average depending upon whether they scored below the 25th percentile, between the 25th and 75th percentiles, or above the 75th percentile, respectively. By definition, 25 percent of the national, large-city norming population scored in the lower and upper intervals, while the remaining 50 percent scored in the middle interval.

On the basis of this past year's results, District students in Grades 4 and 6 were distributed across these intervals as shown in Table 4. Here the testing results are cast in a somewhat different light. The data in this table support the following interpretations.

1. There were higher than average percentages of above average White students on all subtests at both grade levels, although the percentages were somewhat lower at Grade 6 (especially in language).

2. There were substantially lower than average percentages of above average Black and Hispanic students on all subtests at both grade levels. Considerably higher percentages of Black and Hispanic students were classified as above average in language as compared to reading and mathematics.

3 At Grade 4 in reading and language, the percentages of average students were nearly identical across all ethnic classifications.

4. While the percentages of average White students was approximately the same in Grade 6 as in Grade 4 on all subtests, the percent of average Black students in Grade 6 was markedly lower than that reported for Grade 4. Among Hispanic students, the percent of average students was lower in Grade 6 in reading and mathematics.

TABLE 4

Percent of Students Below Average, Average, and Above Average on the ITBS, Grades 4 and 6

Grade 4

	Reading			Language			Mathematics		
	BA	AV	AA	BA	AV	AA	BA	AV	AA
White	16	48	36	18	42	40	26	42	32
Black	47	47	6	45	44	11	60	34	6
Hispanic	46	46	8	42	43	15	54	37	9
All	37	47	16	36	43	21	48	37	15

Grade 6

	Reading			Language			Mathematics		
	BA	AV	AA	BA	AV	AA	BA	AV	AA
White	25	47	28	26	45	29	32	41	27
Black	62	34	4	55	38	7	69	26	5
Hispanic	56	39	5	49	42	9	57	34	9
All	50	38	12	45	41	14	55	32	13

BA = Below Average
AV = Average
AA = Above Average

Basic Objectives Assessment Test (BOAT) Results

The BOAT was administered at Grade 6 early in 1979. This test is an objective-referenced instrument designed to measure student progress toward mastery of basic skills in reading and mathematics as prescribed by the Baseline Documents.

The BOAT results for Grade 6 are summarized in Tables 5 and 6. From Table 5 we see that as a group District sixth graders correctly answered an average of 71 percent of the BOAT items. White students answered more items correctly than did Hispanic students, who in turn answered more items correctly than did Black students.

In Table 6, the BOAT results are presented in a somewhat different fashion. Here, the percentages of students, by subdistrict, who successfully answered increasing percentages of items are presented. The table illustrates that performance began to fall off beyond 40 percent of the items correct and declined sharply beyond 70 percent correct. Among those items with which students in all subdistricts had the most difficulty, were the following:

1. adding fractions with unlike denominators,
2. comparing units of volume,
3. computing rectangular area,
4. identifying similar sounds in spelling,
5. knowing vocabulary, and
6. reading paragraphs with comprehension.

TABLE 5

Mean Percent Correct Items on BOAT for Grade 6[a]

District	White	Black	Hispanic	All Students
NW	85	64	72	73
NE	82	64	75	74
SE	76	65	70	71
SW	79	70	70	73
EOC[b]		65		65
DISD	80	66	71	74

[a] Number of Items = 29

[b] Since EOC is predominately Black, having too few students of other ethnicities on which to report individual results, only the results for all students combined are reported.

TABLE 6

Percentages of Sixth-Grade Students Correctly Answering Various Percentages of Items on BOAT[a]

District	10%	20%	30%	40%	50%	60%	70%	80%	90%
NW	99	99	97	74	87	75	64	45	19
NE	99	97	97	94	87	76	66	46	19
SE	97	99	97	94	85	73	62	40	13
SW	99	99	98	95	88	76	65	26	15
EOC	99	99	95	90	78	60	48	42	7
DISD	99	99	97	94	85	72	61	40	14

[a] Number of Items = 29

Longitudinal Achievement

In the previous section we considered only those data collected during the spring of 1979. In this section we consider those data again, only this time as part of a trend in achievement over years. Two types of longitudinal data are discussed. The first of these, what we call quasi-longitudinal data, measures performance at the same grade level over two points in time. Within any particular grade level, the student populations for any two or more years are different and thus confounded with any presumed "educational" effect over the same years. In fact, if the quasi-longitudinal trends show positive or negative gains over years, then to be able to attribute these gains to instructional or curricular effects it is necessary to assume that the populations are essentially the same in all ways related to ability and achievement. We have already seen that the population for at least one class of students, those who entered fourth grade in 1976, experienced a dramatic change in membership over the last three years. Furthermore, we know that the ethnic proportions of Grades 4-6 have changed considerably over the last several years with the percent of White enrollment showing a sharp decline. To what extent these changes are related to achievement trends independently of educational effects can only be surmised.

The second type of longitudinal data we discuss, what we call cohort-longitudinal data, consists of test scores on the same individuals across grade levels over years. To a certain extent these data control for differences brought about by population shifts and are therefore more sensitive to District educational treatment effects. The interpretation of these data are not exactly clear-cut, however, for they are susceptible to a different source of confounding: that of selection bias. In order to clearly attribute trends in cohort-longitudinal results to corresponding trends in educational treatment, it is necessary to assume that the population shifts that have occurred in Grades 4-6 have been random with respect to achievement and ability levels of students lost. If those students lost were poorer-achieving students than those who remained (a possibility for which we have some evidence) then at least some portion of any positive gains in achievement evidenced in the trend data would have to be attributed to this fact alone, independently of any positive educational effects. Of course, the converse also holds.

Grade Level Achievement Trends Over Years (Quasi Longitudinal)

In this section we discuss achievement trends for each of the grade levels 4-6. In all cases except Grade 5, data were available from system-wide administrations in the fall of 1973, the spring of 1978, and the spring of 1979. Because of the design of the system-wide testing program, longitudinal data before 1978, for Grade 5, were unavailable.

Changes in grade level medians. The first data we look at are changes in median percentile rankings over years. Before doing so, however, we would like to point out that changes in percentiles signify different magnitudes of change in achievement level at different points along the percentile continuum. Thus, a change in percentiles at the ends of the continuum (1-25, 75-99, say) are to be interpreted as being more significant in terms of changes in achievement level than are changes around the mid-portion of the continuum (25-75, say). Also, changes in percentiles in a direction away from the mid-point, can be regarded as more important than comparable changes in a direction toward the mid-point. To take a concrete example, a change from the 48th to the 58th percentile does not signify as great a change in achievement level as does a change from the 58th to the 68th percentile. Furthermore, a change from the 68th to the 58th percentile is usually not as important as a change from the 58th to the 68th percentile. The reasons for these differences in interpretation of percentile changes tend to be technical and thus beyond the scope of this presentation.

Median percentiles attained on the ITBS for students in Grades 4-6 in the fall of 1973 (Grades 4 and 6, only) and the springs of 1978 and 1979 are displayed in Table 7[1]. A close examination of this table leads to the following conclusions.

1. The median percentiles of White students improved on all subtests in Grade 4 over the years F73 to S79. At Grade 5 there was improvement in S79 over S78. At Grade 6 a decline in reading was observed over the years F73 to S79. Also at Grade 6 a major decline was observed in mathematics in S78 (from F73) with nearly full recovery in S79.

2. Median percentiles for Hispanics at Grade 4 were stable in reading, improved in language, and recovered from a decline (in S78) in mathematics over the years F73 to S79. At Grade 5 median performance improved on all the subtests from S78 to S79. At Grade 6 Hispanic median percentiles declined in reading, were fairly stable in language, and recovered from an earlier decline (in S78) in mathematics over the years F73 to S79.

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[1] Grade 6 results were estimated from test scores obtained from students in Grade 7 during the fall of 1978. During that testing session only the reading and mathematics subtests of the ITBS were administered. Thus language scores could not be reported.

TABLE 7

Changes in Large City Percentile Rankings
over Years (ITBS, Grades 4–6)

Grade Level	Sub-district	Year	White R	White L	White M	Hispanic R	Hispanic L	Hispanic M	Black R	Black L	Black M	Total R	Total L	Total M
Grade 4	NW	F73	70	60	56	20	20	24	16	14	14	34	28	28
		S78	73	74	63	23	21	10	19	12	6	34	38	22
		S79	73	76	73	26	31	22	20	21	15	39	47	36
	NE	F73	58	46	42	32	28	26	18	14	14	36	30	26
		S78	66	64	50	26	24	13	14	12	5	36	41	22
		S79	68	68	57	26	38	22	19	18	10	42	49	36
	SE	F73	44	36	36	26	24	22	18	20	18	34	28	26
		S78	47	44	28	31	28	15	19	18	5	31	31	18
		S79	55	58	47	31	44	28	29	38	18	44	51	32
	SW	F73	44	38	36	28	24	22	18	20	18	36	28	26
		S78	52	54	36	23	28	14	29	34	15	31	38	22
		S79	58	62	43	29	38	18	34	47	22	39	49	28
	EOC	F73							20	20	18	20	20	18
		S78							26	31	12	26	28	12
		S79							29	34	15	26	31	15
	Total DISD	F73	56	46	42	26	22	24	18	18	16	32	26	26
		S78	58	58	43	23	24	12	23	24	10	31	34	18
		S79	63	66	57	26	34	22	26	31	15	36	44	28
Grade 5	NW	S78	70	70	58	11	16	4	9	7	3	21	27	11
		S79	74	73	74	24	32	21	15	16	11	36	43	34
	NE	S78	56	53	37	21	24	12	8	7	3	26	31	13
		S79	64	63	52	24	32	21	11	11	4	36	38	26
	SE	S78	41	38	24	17	21	11	13	11	3	26	24	11
		S79	46	50	37	26	38	21	19	21	7	33	38	21
	SW	S78	44	48	30	15	16	4	20	27	7	24	30	11
		S79	49	52	40	19	27	15	28	32	15	31	35	21
	EOC	S78							19	21	4	19	21	4
		S79							21	24	11	21	24	11
	Total DISD	S78	52	50	34	15	19	7	13	16	4	21	27	11
		S79	57	59	47	23	30	15	19	21	11	31	35	21
Grade 6	NW	F73	76	68	62	20	20	18	12	10	12	38	36	32
		*S78	73		61	16		8	10		4	24		17
		S79	69	72	74	19	26	20	12	11	8	26	38	29
	NE	F73	54	56	54	26	22	28	10	10	8	46	40	38
		*S78	57		42	20		11	9		3	28		15
		S79	53	56	49	26	28	29	11	11	6	28	33	26
	SE	F73	48	40	38	20	20	22	12	10	12	25	26	24
		*S78	39		29	21		9	12		4	24		13
		S79	41	43	35	26	28	20	19	21	8	28	33	20
	SW	F73	54	50	44	26	24	24	18	18	14	42	38	32
		*S78	47		34	16		8	19		8	24		13
		S79	48	51	40	19	24	14	22	30	16	28	33	20
	EOC	F73							18	14	12	18	14	12
		*S78							12		5	12		5
		S79							17	21	8	19	21	8
	Total DISD	F73	62	54	50	24	22	20	14	12	12	32	28	26
		*S78	53		39	17		8	12		5	22		11
		S79	51	53	49	20	26	18	15	19	8	26	30	18

R = Reading, L = Language, M = Math

*Sixth-grade S78 scores are estimated from tests administered in September, 1978.

3. Among Black students, median percentiles improved at Grade 4 in reading and language, and recovered from a decline (in S78) in mathematics over the years F73 to S79. At Grade 5 median percentiles improved on all subtests over the years S78 to S79. At Grade 6 median percentiles were stable in reading, improved in language, and declined in mathematics over the years F73 to S79.

Changes in grade-level percent of students at or above norm. Earlier we stated that we feel the best indication of the District's achievement is the percent of students who scored at or above the national, large-city 50th percentile. Our statements then apply here, also. Thus, in Table 8 we display the percentages of students, classified by ethnicity, grade level and subdistrict, who scored at or above norm on the reading, language, and mathematics subtests on the ITBS. As in the previous sections, the data are taken from system-wide administrations of the ITBS in the fall of 1973 (Grades 4 and 6 only) and the springs of 1978 and 1979. After examining this table, we reached the following conclusions, all of which are in agreement with those reported above.

1. When ethnic classifications are considered separately, we observe that the percent of students at or above norm has increased on all subtests for all ethnic classifications from F73 to S79 at Grade 4, and from S78 to S79 at Grade 5. At Grade 6 the percent of higher achieving White students has declined in reading and has held constant in language since F73. In mathematics, however, the percent of White students above norm declined moderately in S78 but returned to essentially the F73 level in S79. The percent of sixth-grade Hispanic students at or above norm in S79 was insignificantly smaller than that reported for F73 in reading and larger in language and mathematics. Among Black sixth-grade students larger percentages of students were at or above norm on all subtests in S79 than in F73. Particularly noteworthy were the large gains in percent at or above norm observed in language and mathematics.

2. Within ethnic groups, individual subdistricts tended to mirror the district-wide trends at Grades 4 and 5. At Grade 6 the trends were inconsistent among subdistricts. East Oak Cliff enjoyed steadily increasing percentages of students at or above norm, with a high of 26 percent in language in S79.

TABLE 8

Changes in Percent of Students Above Norm over Years (ITBS, Grades 4-6)

Grade	Sub-district	Year	White			Hispanic			Black			All		
			R	L	M	R	L	M	R	L	M	R	L	M
Grade 4	NW	F73	71	58	56	17	15	17	7	6	5	38	31	30
		S78	78	78	67	20	25	18	15	20	12	38	41	32
		S79	78	78	73	24	34	30	20	25	21	42	47	42
	NE	F73	58	48	41	26	21	16	7	7	4	38	32	26
		S78	67	64	55	26	30	24	14	19	9	41	42	33
		S79	68	70	60	29	39	29	19	25	17	43	48	39
	SE	F73	42	33	29	19	16	15	12	9	6	31	24	21
		S78	49	44	34	25	32	22	16	23	14	34	35	25
		S79	57	60	50	34	43	31	30	38	23	45	50	38
	SW	F73	51	39	33	23	16	15	13	9	6	36	27	23
		S78	53	52	40	21	28	17	29	35	20	34	38	26
		S79	61	61	47	28	38	23	32	46	28	40	48	32
	EOC	F73							14	11	7	13	11	7
		S78							25	32	20	25	32	19
		S79							26	34	21	26	34	21
	Total	F73	36	45	41	20	16	15	11	8	6	32	26	23
		S78	61	58	48	22	28	19	21	28	16	34	38	27
		S79	65	67	57	27	37	26	26	34	22	39	45	34
Grade 5	NW	S78	70	72	58	14	18	11	11	14	6	31	34	25
		S79	74	78	70	18	31	23	15	23	17	37	45	37
	NE	S78	57	55	41	17	29	16	7	12	6	32	34	26
		S79	63	66	54	26	32	25	11	18	11	38	43	33
	SE	S78	40	38	29	15	25	16	12	18	8	27	29	19
		S79	46	51	38	23	34	18	18	26	15	33	40	27
	SW	S78	45	48	33	15	22	10	19	28	10	26	32	17
		S79	50	52	41	16	28	17	27	36	20	31	39	26
	EOC	S78							18	25	11	18	25	11
		S79							20	27	16	20	27	16
	Total DISD	S78	52	52	39	15	22	12	15	21	9	26	31	19
		S79	57	61	50	19	30	20	19	27	16	31	38	28
Grade 6	NW	F73	74	66	60	19	21	16	11	11	9	41	27	34
		*S78	70		62	16		15	10		9	31		29
		S79	69	71	69	18	26	23	10	16	13	33	37	36
	NE	F73	64	56	53	25	23	20	9	10	8	46	42	38
		*S78	57		45	20		20	9		6	32		26
		S79	53	53	49	21	33	32	8	16	14	30	37	32
	SE	F73	48	40	36	17	17	17	7	10	7	31	27	24
		*S78	40		33	20		13	11		7	26		20
		S79	41	41	37	21	29	17	14	23	11	29	33	25
	SW	F73	56	49	43	23	26	19	19	16	12	42	37	33
		*S78	49		39	16		13	18		16	26		21
		S79	50	50	42	18	22	16	20	29	19	28	33	25
	EOC	F73							13	15	9	13	15	9
		*S78							13		9	13		9
		S79							16	25	12	16	26	12
	Total DISD	F73	61	53	49	21	22	17	11	13	8	35	33	29
		*S78	53		44	17		15	12		9	25		20
		S79	52	53	48	19	26	21	14	23	14	27	33	26

R = Reading, L = Language, M = Math

*Sixth-grade S78 scores were estimated from tests administered in September, 1978.

Achievement Trends of Same Students over Years (Cohort Longitudinal)

In this section we discuss the achievement growth of given cohorts of students over one year (in one case three years) from S78 to S79 (in the exceptional case, from F76 to S79). A cohort was defined as a group of students for whom test scores were available on two occasions over years. Thus four cohorts were identified: a grade 3-4 cohort (measured in Grade 3 in S78 and again in Grade 4 in S79), a grade 4-5 cohort (measured in Grade 4 in S78 and again in Grade 5 in S79), a Grade 4-6 cohort (measured in Grade 4 in F76 and again in Grade 6 in S79), and a Grade 5-6 cohort (measured in Grade 5 in S78 and again in Grade 6 in S79).

Comparison of growth rates with expected growth rates. By using the norms tables provided with the ITBS, it was possible to compute the expected rate of growth for each of the classifications given in Table 9. The actual growth rates could then be compared to their expected growth rates.

The most striking finding in Table 9 is that in nearly every case achievement growth equaled or exceeded expected growth. Generally, the only exception occurred in language in the Grade 3-4 cohort, where Black students fell behind expected growth.

Cohorts versus non-cohorts. Median percentile scores of both cohort and non-cohort students, in Grades 4-6 districtwide, are presented in Table 10. Cohort students were again those who could be identified as having been both pretested and posttested. Non-cohort students are those who could be identified as having been pretested or posttested but not

TABLE 9

Summary of Cohort Achievement over Grades 4-6

Sub-District	Cohort	White			Black			Hispanic			All		
		R	L	M	R	L	M	R	L	M	R	L	M
NW	3-4	B+	B+	B+	B-	C-	B-	B-	B-	B-	C-	C	B-
	4-5	B+	B+	B+	B-	C-	A-	B-	A-	B-	B-	B-	A-
	4-6	B+	B+	A+	B-	B-	B-	B-	A	A-	B-	A-	A-
	5-6	B+	A+	A+	A-	B-	A-	A-	A-	A-	B-	A-	A-
NE	3-4	B+	B+	B+	B-	C-	C-	B-	B-	B-	B-B-		B-
	4-5	B+	B+	B+	B-	A-	A-	A-	A-	A-	B-	A-	A-
	4-6	C+	B+	B	C-	B-	B-	A-	A-	A-	B-	A-	A-
	5-6	B+	B+	A	B-	A-	A-	A-	A-	A-	B-	A-	A-
SE	3-4	B+	B+	B	B-	C-	B-	B-	B-	B-	B-	B-	B-
	4-5	B+	B+	B	B-	B-	B-	B-	B-	B-	B-	B-	B-
	4-6	B	B+	A	B-	A-	B-	B-	A-	A-	B-	A-	B-
	5-6	B	A+	A	B-	B-	A-	A-	A-	A-	B-	B-	A-
SW	3-4	B+	B+	B	B-	C	B-	B-	B-	B-	B-	C	B-
	4-5	B	B	B	B-	B-	B-	B-	B-	B-	B-	B-	B-
	4-6	B	B	A	B-	A-	A-	B-	A-	B-	B-	A-	A-
	5-6	B	B	A	B-	A-	A-	B-	A-	A-	B-	B-	A-
ECC	3-4				B-	C-	B-				B-	C-	B-
	4-5				B-	B-	B-				B-	B-	B-
	4-6				B-	A-	B-				B-	A-	B
	5-6				B-	B-	A-				B-	B-	A-
DISD	3-4	B+	B+	B	B-	C-	B-	B-	B-	B-	B-	C	B-
	4-5	B+	B+	B	B-	B-	B-	B-	B-	B-	B-	B-	B-
	4-6	B	B+	A	B-	A-	B-	B-	A-	A-	B-	A-	B-
	5-6	B	A+	A	B-	B-	A-	A-	A-	A-	B-	B-	A-

R = Reading, L = Language Arts, M = Mathematics
+ = Finished above norm, - = Finished below norm
A = Exceeded growth of the norm group at appropriate place in distribution
B = Equalled growth of the norm group at appropriate place in distribution
C = Lagged behind growth of the norm group at appropriate place in distribution

TABLE 10

Median Percentile Scores of Grades 4-6 Cohorts and Non-cohorts

	Reading				Language				Mathematics			
	Cohort		Non-cohort		Cohort		Non-cohort		Cohort		Non-cohort	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Grade 3, Spring 1978 to Grade 4, Spring 1979												
NW	47	39	50	44	54	44	54	51	38	46	42	43
NE	47	42	47	39	62	51	54	41	38	36	38	28
SE	47	44	47	44	54	49	49	51	34	32	38	36
SW	47	42	40	36	58	49	49	48	30	28	30	22
EOC	30	26	27	29	46	31	40	34	22	15	18	15
Grade 4, Spring 1978 to Grade 5, Spring 1979												
NW	36	36	31	38	44	43	31	40	22	34	18	40
NE	36	38	36	26	44	43	34	31	22	27	22	20
SE	34	33	29	31	38	40	28	38	18	21	15	27
SW	33	31	34	28	38	38	38	32	22	21	22	21
EOC	29	24	23	13	31	30	21	19	15	11	8	7
Grade 5, Spring 1978 to Grade 6, Spring 1979												
NW	24	26	21	26	32	38	34	30	11	29	11	31
NE	28	33	24	22	32	38	21	19	15	26	11	16
SE	26	28	21	29	27	33	21	28	15	20	9	16
SW	26	28	25	22	32	35	27	28	11	20	11	16
EOC	19	19	11	14	24	24	11	13	7	8	3	4
Grade 4, Fall 1976 to Grade 6, Spring 1979												
NW	27	28	39	24	32	38	42	33	16	29	23	26
NE	30	33	36	24	32	35	36	26	19	26	19	18
SE	30	33	24	26	32	37	24	28	16	23	16	16
SW	30	30	27	24	36	38	32	26	16	23	16	16
EOC	22	19	16	14	24	24	16	15	8	8	6	6

both. The reasons explaining the presence of non-cohort students could be manifold; four are listed here: (1) after a student was pretested, he left the District before he was posttested, (2) a student was available for posttesting only, having recently entered the district, (3) a student was not in attendance at school for one of the testings, and (4) a student's identification codes were erroneous on at least one testing record so that his/her records could not be matched across time. For the sake of brevity, reasons (1) and (2) will be used to describe all cases in the discussion below.

1. In 36 of 60 comparisons, median pretest scores for cohorts were higher than for non-cohorts. Thus in 60 percent of the comparisons, the District retained better-achieving students than it lost, on the average. In another 14 (23%) of the comparisons, students who were retained performed equally to those who were lost.

2. In 45 of 60 comparisons, median posttest percentiles were higher for cohorts than for non-cohorts. Thus in 75 percent of the comparisons, students retained were better achievers than those gained, on the average. In another 11 (18%) of the comparisons, students who were gained performed equally to those who were retained.

Summary

We arrive at the following conclusions regarding the system-wide test administration at Grades 4-6.

1. From all indications, achievement levels at Grades 4-6 made unprecedented improvement during the past year.

2. Achievement levels on the ITBS for 4-6 cohort groups generally showed improvement from fall 1976 and spring 1978 to spring 1979. This finding was consistent across all ethnic groups as well as for the District as a whole.

3. Cohort groups tended to score better on the ITBS than non-cohort groups, which probably indicated that those students "retained" in the District's schools showed better achievement than those "not retained."

4. The trend of improving test performance also held for the quasi-longitudinal analyses at Grades 4 and 5. For those analyses there were no controls for changes over time in student populations. Thus, improvements in achievement were manifest for Grades 4 and 5 despite the influence of factors (i.e., longitudinal enrollment trends and student turnover) which acted to depress District-wide achievement scores. At Grade 6, however, declines, especially in reading, were noted.

5. For the spring 1979 ITBS administrations in Grades 4-6, White students generally performed at or above norm (relative to the national, large-city norm population) on all subtests. Hispanic and Black students scored below norm across grades and subtests.

6. Performance on the ITBS in mathematics for spring 1979, although having increased from spring 1978, was consistently below that in reading and language for all ethnic groups.

7. BOAT results District-wide for sixth graders were encouraging in that the average percent of items answered correctly was 71. The average percent correct was 80, 71, and 66 for White, Hispanic, and Black students, respectively.

8. Percentile interpretations across grade levels are affected by differing norm groups and changing group populations. The evidence that the District is retaining better students than it is losing, taken together with the cohort-longitudinal results, suggests that much of the differences reported here are probably due to changing student populations.

RE79-802-61-30

An Interpretative Analysis of System-wide Achievement Data, 1978-79
Grades 7-8

George H. Olson and James A. Meier

The purpose of this report is to provide a summary and interpretation of system-wide achievement and process evaluation results for Grades 7-8, contained in the following System-wide Evaluation reports.

1. Norm-referenced Performance Profiles 1979 (Meier, Whitmore, and Olson, IR79-006-31-30 through IR79-006-36-30).
2. Quasi-Longitudinal Achievement Trends 1976-79 (Meier and Eberhart, IR79-008-31-30 through IR79-007-35-30.
3. Cohort-Longitudinal Achievement Trends 1976-79 (Meier and Eberhart, IR79-008-31-30 through IR79-008-35-30).
4. Basic Objectives Assessment Tests Profiles 1979 (Meier, IR79-009-31-26 through IR79-009-36-26).

In interpreting the achievement results summarized in these documents, we also make use of results contained in the following documents.

5. 1978-79 School Holding Power Study (Marcus and Julian, IR79-012-31-10).
6. Eleven-year Enrollment Trends (Sheehan and Berry, IR79-091-31-05).
7. Enrollment Projections for 1979-83 (Sheehan and Berry, IR79-088-31-05).

Context

Desegregation

On 7 April 1976 the U.S. District Court for the Northern District of Texas, Dallas Division, divided the DISD into six subdistricts and established a system of uniform grade configurations, one of which consisted of 7-8 schools. The Court Order also held that four of the six subdistricts were to approximate the district-wide ethnic composition within plus or minus 5 percent. Of the two remaining subdistricts, one, East Oak Cliff, was to be left almost entirely Black, and one, Seagoville, was to be left majority White.

Of the four subdistricts involved in the requirement to achieve ethnic parity with the total district, one, the Southwest Subdistrict, was to a large extent already naturally integrated and thus only moderately involved in the court-ordered desegregation plan. The remaining three subdistricts were to be heavily involved.

The Court Order ruled that ethnic parity in the involved subdistricts would be established by bussing students of all ethnicities in Grades 4 through 8. This resulted in over 16,000 students being bussed for purposes of desegregation when school opened in August, 1976. Many of these students were to be transported (and many desegregated) for the first time. At that time there was a stepped-up effort to provide alternative modes of education (e.g., the academy schools) to serve special needs of students of all ethnicities. At the same time, the District appeared to accelerate its drive to get "back to the basics."

The redistribution of students due to the court mandate had notable effects on individual schools average achievement levels as measured by system-wide tests. Historically, minority students have scored lower than White students on these tests. Accordingly, following the implementation of the court-ordered desegregation plan, many schools that were formerly mostly White and were now ethnically balanced, experienced declines in school-wide average achievement test performance primarily due to the influx of large numbers of lower test-scoring students. However, it is important to note that the declines were not necessarily due to falling test scores within individual ethnic classifications.

Enrollment Data

Enrollment trends, along with enrollment projections, have been plotted in Figures 1-5, for five subdistricts (Seagoville has been pooled with the Southeast Subdistrict). From these graphs we conclude that, from 1968, Grade 7-8 enrollment has declined considerably in both the Northwest and Northeast Subdistricts; declined more gradually since 1972 in the Southeast Subdistrict; and has held more or less steady in the Southwest and East Oak Cliff Subdistricts.

When we compare enrollment trends for the three major ethnic classifications, we find that White enrollment in all subdistricts except East Oak Cliff (where there were originally few White students) began to decline in 1969-1970 and has continued to decline ever since. Minority enrollment, on the other hand, has tended to increase yearly in the Northeast and Southwest Subdistricts and to hold fairly steady in the other subdistricts.

Student Turnover

Another phenomenon, related to enrollment, that should be taken into account when interpreting the achievement results reported in this document is the mobility of the District's student population. While enrollment trends show changes in net enrollment over years, they do not yield information on the number of individual students who are lost or

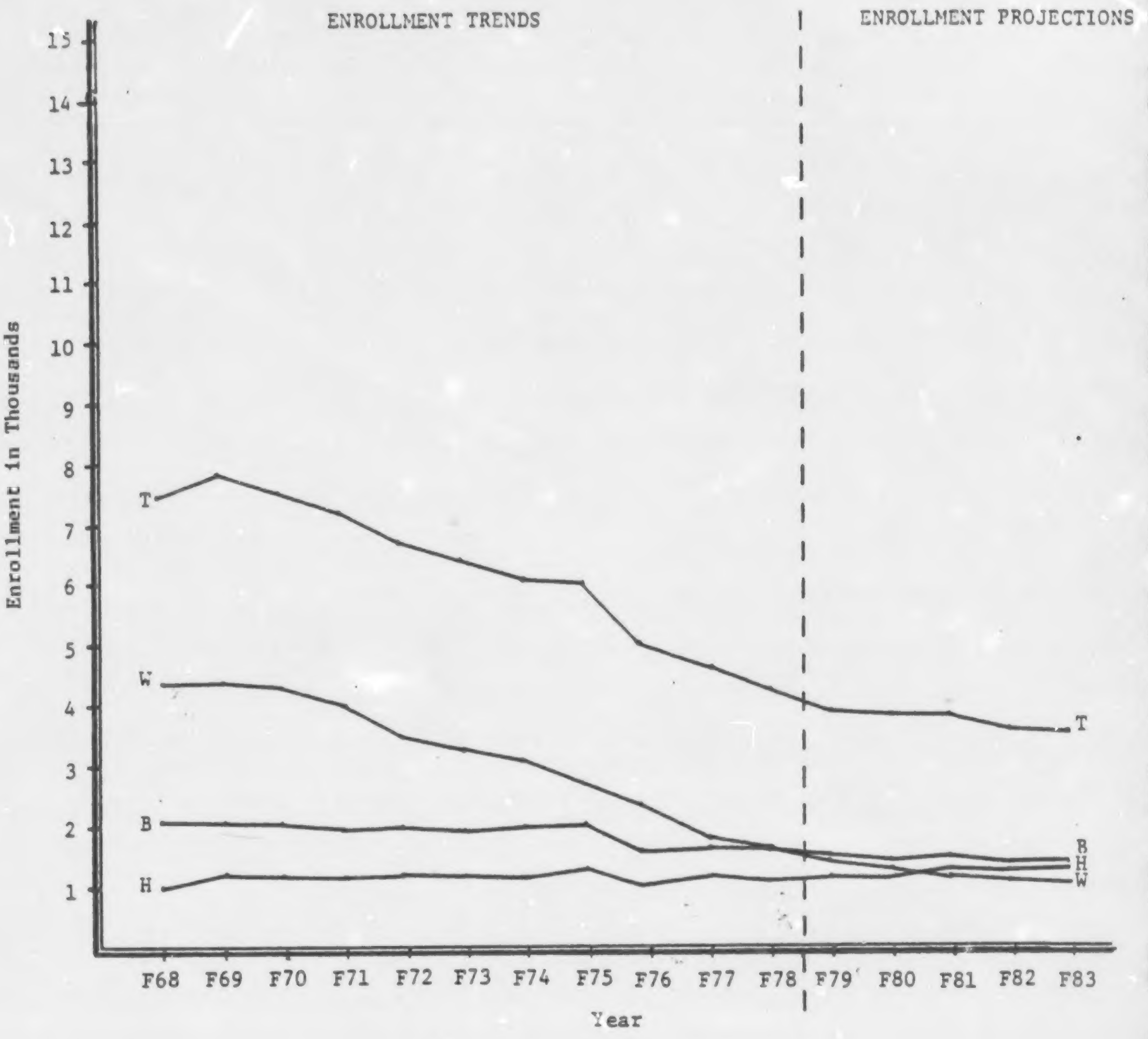

Figure 1

Enrollment Trends and Projections
Northwest Subdistrict
Grades 7-8

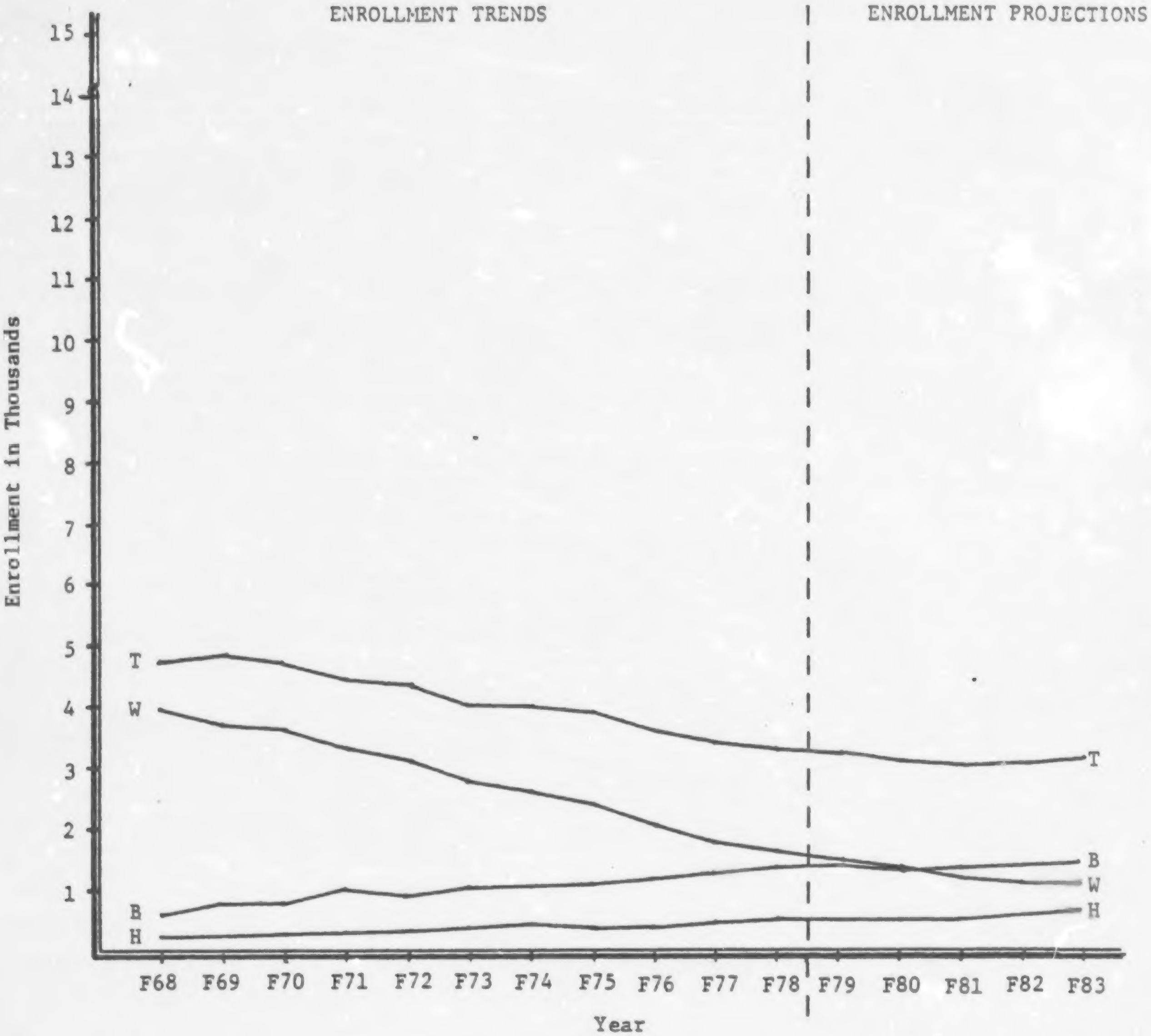

Figure 2

Enrollment Trends and Projections

Northeast Subdistrict
Grades 7-8

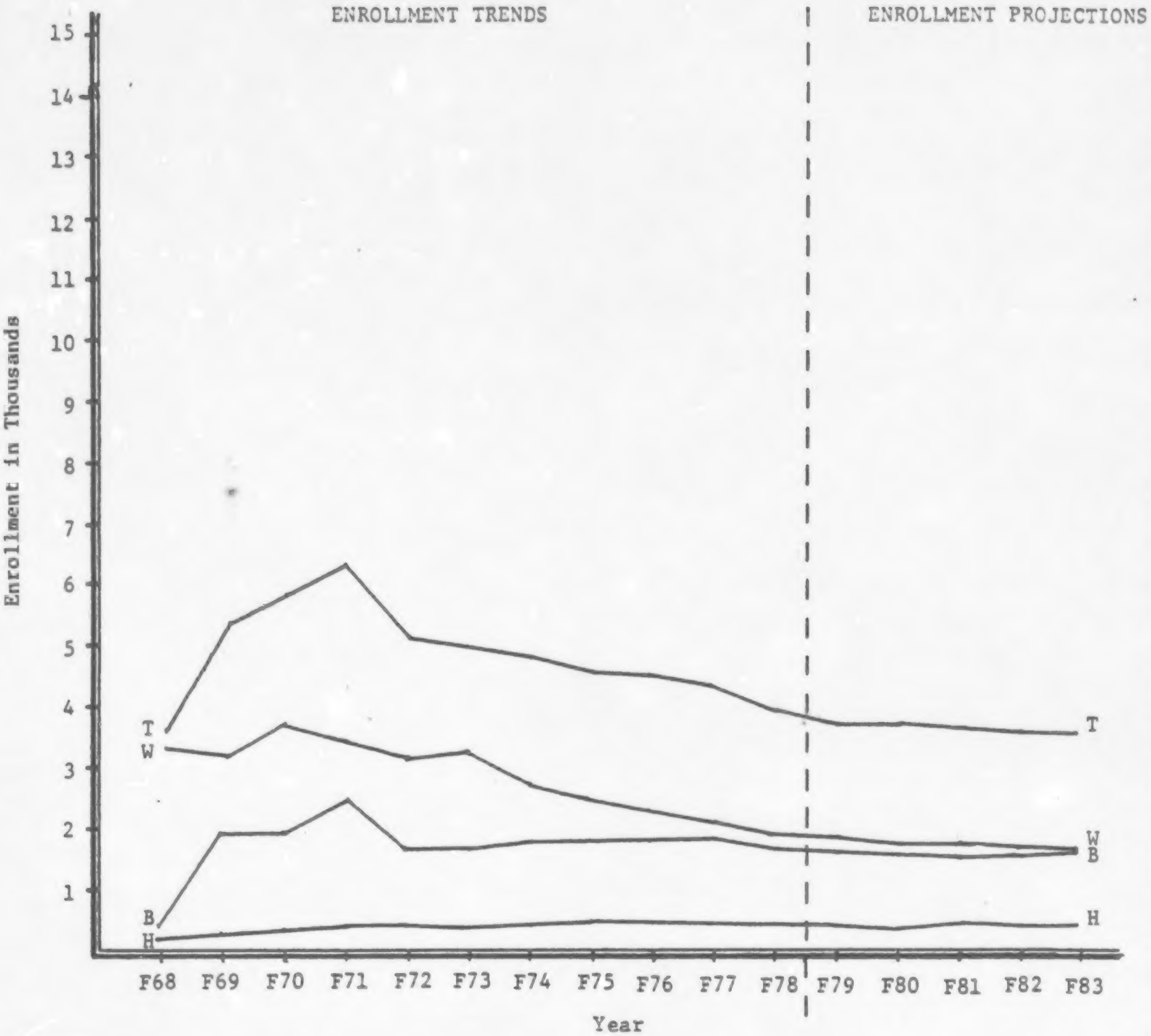

Figure 3

Enrollment Trends and Projections

Southeast Subdistrict
Grades 7-8

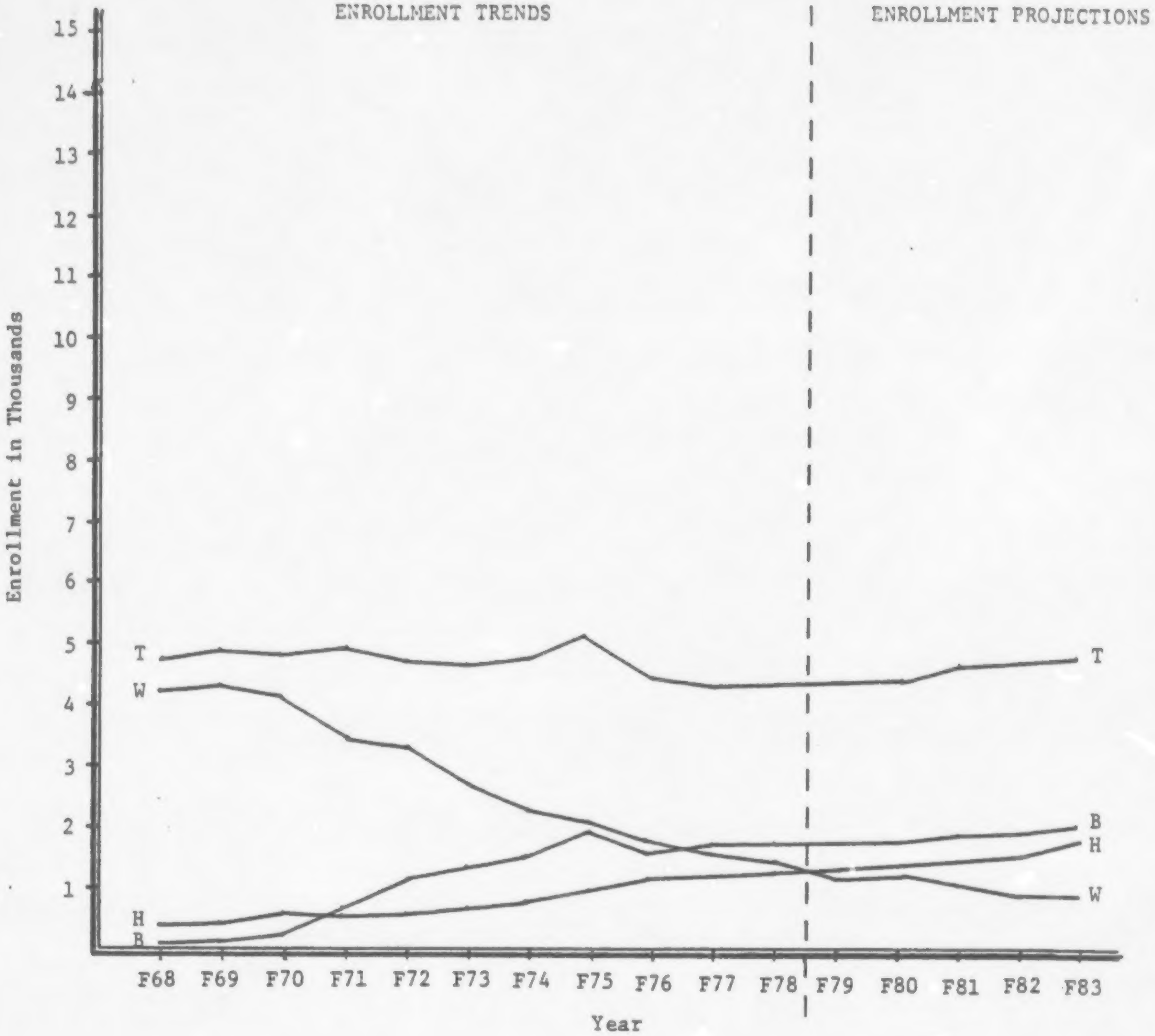

Figure 4

Enrollment Trends and Projections
Southwest Subdistrict
Grades 7-8

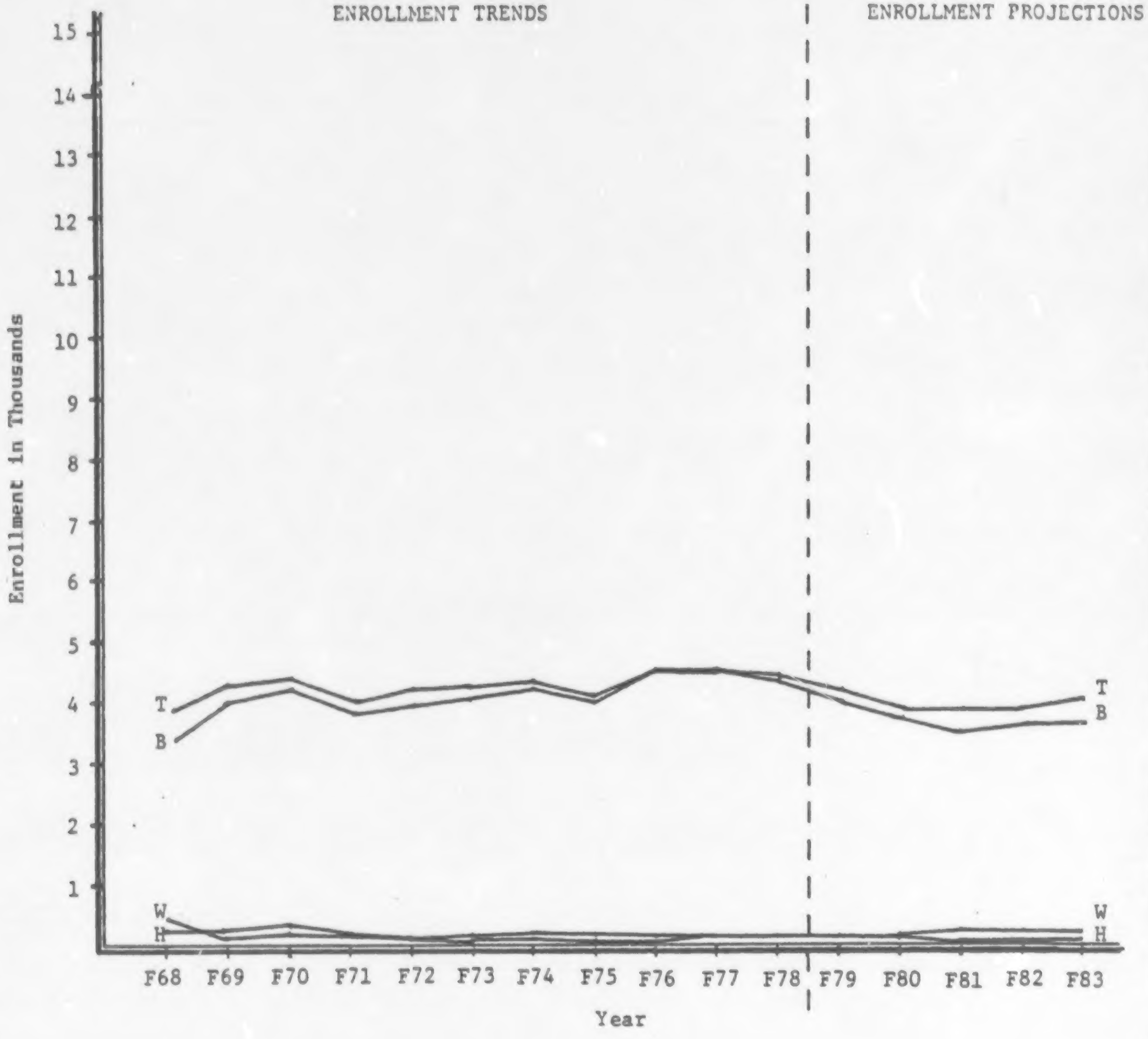

Figure 5

Enrollment Trends and Projections

East Oak Cliff Subdistrict
Grades 7-8

gained over the period. To study these changes it is necessary to examine the membership of given groups of students over years, as has been done in Table 1. In this table we compared the Grade 5 membership in fall 1975 with the Grade 8 membership in spring 1979. Students who were enrolled in 1975 and still enrolled in 1979 were labeled "retained" students. Students enrolled in 1979 but not enrolled in 1975 were considered new or "gained" students.

Table 1 implies a considerable amount of student turnover in Grades 5-8. Thus, we see that, although membership in this group of students showed a slightly negative net gain, over 30 percent of the original group members were no longer enrolled in 1979. On the other hand, over 25 percent of the group members were new as of 1979. Clearly this represents a significant change in student population in Grades 5-8 over just four years. What effect this has had on District achievement trends can only be surmised. However, as we shall see later, there may be some evidence to suggest that those students whom the District retained were better achievers than those whom it either lost or gained.

1978-79 Achievement

In this section we summarize the District's achievement for the 1978-79 school year in Grades 7-8. It should be pointed out that, for the purpose of this report, achievement is rather narrowly defined as performance on one or more of the test batteries administered by the District's System-wide Testing Program. In 1978-79 the system-wide testing paradigm was as shown in Table 2.

TABLE 1

Changes in Student Population from the Expected Enrollment for Grade 5, Fall 1975 to Grade 8, Spring 1979

Ethnicity		Retained[a]		Gained[b]		Net[c]	
		N	%	N	%	N	%
BLACK	Male	2082	80.95	580	21.71	90	3.50
	Female	2166	82.89	584	21.16	137	5.24
	Total	4248	81.93	1164	21.43	227	4.38
OTHER	Male	1219	50.73	659	35.26	-525	-21.85
	Female	1136	50.27	468	29.51	-656	-29.03
	Total	2355	50.50	1127	32.62	-1181	-25.33
HISPANIC	Male	594	68.75	264	30.63	-6	-.69
	Female	549	68.28	208	27.33	-47	-5.85
	Total	1143	68.53	472	29.08	-53	-3.18
TOTAL	Male	3895	66.71	1503	27.82	-441	-7.55
	Female	3851	67.84	1260	24.67	-566	-9.97
	Total	7746	67.26	2763	26.29	-1007	-8.74

[a] This column represents retentions from the spring of 1975, Grade 4 to the spring of 1979, Grade 8.

[b] This column represents gains to the 1979, Grade 8 population due to new students entering the DISD after the spring of 1975, Grade 4.

[c] This column represents changes relative to the spring of 1975, Grade 4 population.

TABLE 2

Numbers of Students in Grades 7-8 Tested in 1978-79
by Grade Level and Test Battery

	Grade Level	
	7	8
ITBS Level 10	1,525	96
ITBS Level 11	2,593	1,795
ITBS Level 12	2,628	2,636
ITBS Level 13	2,043	2,627
ITBS Level 14	238	2,085
BOAT		

Achievement results will be presented for the ITBS and BOAT, in turn.

Iowa Tests of Basic Skills (ITBS) Results

The test results for the ITBS at Grades 7-8 are summarized in Table 3 by district, subdistrict, grade level, ethnic classification, and subtest. This table displays two types of information: (a) percentile ranks of median scoring students, and (b) the percentages of students who scored at or above the national, large-city 50th percentile, for each level of classification in the table.

Median percentile scores. The median percentile scores displayed in column "a" of Table 3 give the national, large-city percentile scores attained by the middle-scoring students in a group defined by a given level of classification in the table. By definition a median percentile of 50 is equivalent to the score attained by the middle-scoring student in the national, large-city norming population.

TABLE 3

Summary of 1978-79 ITBS Results for Grades 7-8

		White						Hispanic						Black						All Races					
		R		L		M		R		L		M		R		L		M		R		L		M	
		a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
NW	7	64	65	62	63	62	61	13	14	12	19	8	16	11	10	9	13	4	8	22	31	29	33	18	30
"	8	66	64	63	64	62	62	14	15	12	20	11	17	8	9	6	11	4	9	22	33	28	35	24	33
NE	7	55	57	50	51	48	48	25	25	26	25	18	25	10	8	4	10	3	6	29	34	29	32	20	29
	8	54	54	45	44	46	48	22	20	21	18	17	21	7	6	4	8	4	5	30	34	25	29	24	30
SE	7	36	39	32	37	32	34	19	16	21	15	11	14	12	11	8	12	4	9	20	25	19	24	13	22
	8	36	38	35	36	28	32	20	23	21	26	15	17	10	9	8	11	6	6	21	24	18	25	14	19
SW	7	44	45	41	42	39	40	14	14	14	17	8	13	20	20	27	25	16	17	24	25	25	27	18	22
	8	47	48	38	43	39	42	14	14	15	13	11	14	21	19	20	21	15	16	24	26	21	26	20	23
EOC	7													16	16	14	18	6	10	16	17	15	19	7	12
	8													11	12	10	13	5	8	11	13	11	14	6	8
TOTAL	7	52	51	47	48	43	46	16	16	15	19	11	16	14	14	12	17	6	10	20	26	21	27	14	22
	8	51	51	46	47	44	46	17	16	15	18	12	16	11	12	10	13	6	9	21	26	20	25	15	22

R = Reading
L = Language
M = Mathematics
a = Median National Large City Percentile
b = Percent at or above the National Large City 50th Percentile

Besides providing a rough index of the level of group performance on the ITBS, median percentiles allow us to compare performance levels across subtests. Thus if the median student in a group scores at a higher percentile in reading than in mathematics, he/she is said to have performed better in reading than in mathematics. Accordingly, after examining the median percentiles in Table 3, we arrive at the following conclusions.

1. Median percentile scores for White students were above norm in reading and below norm in language and mathematics at both grade levels. They were highest in reading and lowest in mathematics, and were essentially identical across grades. Among subdistricts, median percentile scores were highest in the Northwest and lowest in the Southeast.

2. Median percentile scores for Hispanic students were well below norm on all three subtests at both grade levels. They were lowest in mathematics and essentially identical across grades. Among subdistricts, median scores were highest in the Northeast and lowest in the Northwest.

3. Median percentile scores for Black students were well below norm on all three subtests at both grade levels. They were lowest in mathematics and essentially identical across grades. Among subdistricts, median scores were highest in the Southwest.

Percent above the 50th percentile. We feel that the best indication of the District's achievement level is given by the percent of students who attained scores at or above the national, large-city 50th percentile (at or above norm). Certainly this statistic is the easiest to comprehend and is less susceptible to erroneous interpretation.

A careful study of the percentages shown in column "b" of Table 3 leads us to the following statements.

1. Close to half the White students were at or above norm in reading, language, and mathematics in both Grades 7 and 8. Generally there were higher percentages of higher achieving White students in the District's two northern subdistricts than in the two southern subdistricts.

2. There was little difference between Black and Hispanic performance in reading and language at both grade levels. In both cases there were few students at or above norm. On the mathematics subtest a smaller percentage of Black than Hispanic students were at or above norm.

3. Among Hispanic students the best performance, in terms of percent of higher achievers, was observed in the Northeast Subdistrict on all subtests at Grade 7 and in the Southeast Subdistrict in reading and language at Grade 8. In mathematics the best eighth-grade performance was observed in the Northeast Subdistrict. Blacks tended to perform best in the Southwest Subdistrict on all subtests.

Percent of students classified as below average, average, or above average. Students may be classified as scoring below average, average, or above average depending upon whether they scored below the 25th percentile, between the 25th and 75th percentiles, or above the 75th percentile, respectively. By definition, 25 percent of the national, large-city norming population scored in the lower and upper intervals, while the remaining 50 percent scored in the middle interval.

On the basis of this past year's results, District students in Grade 8 were distributed across these intervals as shown in Table 4. Here the testing results are cast in a somewhat different light. The data in this table support the following interpretations.

1. Among the District's White students there was a higher percentage of above-average scorers than in the norming group. The percent of average achieving White students was only a little less than in the norming group.

2. Less than one-third of the District's Black students could be classified as average on all three substests, while almost two-thirds of the Black students were below average.

3. Among Hispanic students there was a somewhat higher percentage of average achievers and a lower percentage of below-average achievers than among Black students.

TABLE 4

Percentages of Grade 8 Students Classified as Below Average, Average, and Above Average

	Reading			Language			Mathematics		
	BA	AV	AA	BA	AV	AA	BA	AV	AA
White	27	43	30	31	46	23	33	43	24
Black	70	27	3	67	30	3	77	21	2
Hispanic	62	32	6	60	35	5	66	29	5
All	55	33	12	54	36	10	61	29	10

Basic Objectives Assessment Test (BOAT) Results

The BOAT was administered at Grade 8 early in 1979. This test is a criterion-referenced instrument designed to measure student progress toward mastery of basic skills and knowledge in seven functional applications: consumerism, community, medical, home, employment, government, and information sources. Eventually, all high school graduates will be required to have passed this test.

The BOAT results for Grade 8 are summarized in Tables 5 and 6. From Table 5 we see that eighth graders, district-wide, correctly answered an average of 63 percent of the BOAT items. White students performed considerably better than did Hispanic students, who in turn performed better than Black students.

In Table 6 the eighth-grade BOAT results are reported in a different manner. Here we report the percentages of students, district-wide,

TABLE 5

Mean Percent Correct Items
BOAT, Grade 8

District	White	Black	Hispanic	All
NW	80	53	60	66
NE	76	51	62	66
SE	70	54	61	63
SW	72	59	58	63
EOC[a]		58		58
DISD	75	54	60	63

[a] There were not enough White or Hispanic students in EOC on which to compute meaningful statistics.

TABLE 6

Percentages of Eighth Graders Correctly Answering Increasing Percentages of Items on BOAT

District	20%	30%	40%	50%	60%	70%	80%	90%
NW	99	96	87	76	62	47	30	11
NE	99	95	87	76	64	48	31	10
SE	99	95	87	72	58	39	21	6
SW	99	97	89	76	57	37	19	3
EOC	99	94	83	67	48	27	10	2
DISD	99	95	87	74	58	39	22	6

mastering increasing percentages of items correctly. This table illustrates the fact that district-wide BOAT performance fell off sharply beyond 40 percent correct.

Eighth graders in all subdistricts had difficulty with 75 or more of the 125 items on the BOAT test. Because this number of items is very large, it would be pointless to attempt a description of them here. Generally the best performance covered items dealing with medical objectives, and the worst performance covered items dealing with government and information sources objectives.

Longitudinal Achievement

In the previous section we considered only those data collected during spring 1979. In this section we again consider those data, only this time as part of a trend in achievement over years. Two types of longitudinal data are discussed. The first of these, what we call quasi-longitudinal data, measures performance at the same grade level over at least two points in time. Within any particular grade level, the student populations for any two or more years are different and thus confounded with any presumed "educational" effect over the same years. In fact, if the quasi-longitudinal trends show positive or negative gains over years, then to be able to attribute these gains to instructional or curricular effects it is necessary to assume that the populations are essentially the same in all ways related to ability and achievement. We have already seen that the population for at least one class of students, those who entered fifth grade in 1975, experienced a dramatic change in membership over the last three years. Furthermore, we know that the ethnic proportions of Grades 7-8 have changed considerably over the last several years with the percent White enrollment showing a sharp decline. To what extent these changes are related to achievement trends independently of educational effects can only be surmised.

The second set of longitudinal data we discuss, what we call cohort-longitudinal data, consists of test scores on the same individuals across grade levels over years. To a certain extent these data control for differences brought about by population shifts and are therefore more sensitive to District educational treatment effects. The interpretation of these data are not exactly clear-cut, however, for they are susceptible to a different source of confounding: that of selection bias. In order to clearly attribute trends in cohort-longitudinal results to corresponding trends in educational treatment, it is necessary to assume that the population shifts that have occurred in Grades 7-8 have been random with respect to achievement and ability levels of students lost. If those students lost were lower-achieving students than those who remained (a possibility for which we have some evidence) then at least some portion of any positive gains in achievement evidenced in the trend data would have to be attributed to this fact alone, independently of any positive educational effects. Of course, the converse also holds.

Grade Level Achievement Trends over Years (Quasi Longitudinal)

In this section we discuss achievement trends for Grades 7 and 8. For Grade 7 we had to estimate the spring 1978 (S78) achievement levels by using data collected at Grade 8 during the first few weeks of the 1978-79 school year. Similarly for Grade 8, spring 1978 data were estimated from test data collected at Grade 9 at the beginning of the 1978-79 school year[1]. In addition, due to the testing paradigms used in previous years, test data were also available at Grade 8 from fall 1973 (F73).

Changes in grade level medians. The first set of data we look at are changes in median percentile rankings over years. Before doing so, however, we would like to point out that changes in percentiles signify different magnitudes of change in achievement level at different points along the percentile continuum. Thus, a change in percentiles at the ends of the continuum (1-25, 75-99, say) are to be interpreted as being more significant in terms of changes in achievement level than are changes around the mid-portion of the continuum (25-75, say). Also, changes in percentiles in a direction away from the mid-point can be regarded as more important than comparable changes in a direction toward the mid-point. To take a concrete example, a change from the 48th to the 58th percentile does not signify as great a change in achievement level as does a change from the 58th to the 68th percentile. Furthermore, a change from the 68th to the 58th percentile is usually not as important as a change from the 58th to the 68th percentile. The reasons for these differences in interpretation of percentile changes tend to be highly technical and thus beyond the scope of this presentation.

Median percentiles attained on the ITBS by students at Grade 8 in F73, and at Grades 7-8 in S78 (estimated) and S79 are displayed in Table 7. An inspection of this table leads to the following interpretations.

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[1] The special testing during fall 1979 included only the reading and mathematics subtests of the ITBS. Consequently, in the tables that follow, estimated language scores for spring 1978 are not given.

TABLE 7

Changes in Large-City Percentile Rankings Over Years (ITBS, Grades 7 & 8)

Grade Level	Sub-district	Year	White			Hispanic			Black			Total		
			R	L	M	R	L	M	R	L	M	R	L	M
Grade 7	NW	*S78	68		60	16		8	11		5	26		21
		S79	64	62	62	13	12	8	11	9	4	22	29	18
	NE	*S78	54		40	20		10	8		3	28		17
		S79	55	50	48	25	26	18	10	4	3	29	29	20
	SE	*S78	39		30	40		12	12		5	23		14
		S79	36	32	32	42	21	11	12	8	4	20	19	13
	SW	*S78	43		32	15		10	19		10	23		14
		S79	44	41	39	14	14	8	20	27	16	24	25	18
	EOC	*S78							11		4	11		5
		S79							16	14	6	16	15	7
	Total DISD	*S78	52		40	16		10	11		5	20		12
		S79	52	47	43	16	15	11	14	12	6	20	21	14
Grade 8	NW	F73	72	66	58	16	18	14	10	10	8	38	34	28
		*S78	61		54	15		11	6		4	24		20
		S79	66	63	62	14	12	11	8	6	4	22	28	24
	NE	F73	66	58	48	30	34	20	8	10	8	52	46	34
		*S78	55		51	18		11	4		1	30		26
		S79	54	45	46	22	21	17	7	4	4	30	25	24
	SE	F73	46	38	32	26	24	18	8	10	8	30	26	22
		*S78	34		26	20		20	8		5	18		15
		S79	36	35	28	20	21	15	10	8	6	21	18	14
	SW	F73	54	56	34	18	20	16	18	18	14	34	32	24
		*S78	41		30	17		11	15		6	21		14
		S79	47	38	39	14	15	11	21	20	15	24	21	20
	EOC	F73							10	12	10	10	12	10
		*S78							8		5	8		5
		S79							11	10	5	11	11	6
	Total DISD	F73	60	52	44	18	22	14	10	12	10	30	28	22
		*S78	46		39	16		11	8		5	18		14
		S79	51	46	44	17	15	12	11	10	6	21	20	15

1. Median percentiles in reading and mathematics at Grade 7 were about the same, within each ethnic classification, in S79 as those estimated for S78. Generally White students' medians were at or near norm while minority students' medians were significantly below norm.

2. The median percentile in reading for eighth grade White students declined in S79 from that reported in F73, but the median in S79 was higher than estimated for S78. For this classification of students, the language median was lower in S79 than in F73; but median mathematics achievement, while having declined in S78, returned in S79 to the F73 level.

   Across subdistricts there was little difference between median percentiles estimated for S78 and those obtained for S79 in reading at Grade 7. In mathematics at Grade 7, however, some appreciable improvement was noted in the Northeast and Southwest Subdistricts. At Grade 8 the pattern for each subdistrict tended to reflect those for White students, district-wide.

3. The Grade-8 Hispanic students' median percentile in reading has changed little from that reported for F73, but a more dramatic negative change was observed in language. Median mathematics achievement for Hispanic eighth graders declined from F73 to S78, then remained relatiavely constant from S78 to S79.

   At Grade 7, although there were some slight differences among subdistricts, the patterns for Hispanic students, district-wide, tended to be repeated. An exception was noted for Hispanic achievement in the Northeast Subdistrict. The Hispanic median percentile in mathematics, in S79, was significantly higher than that estimated for S78. The patterns in reading and language, and generally mathematics, at Grade 8 were similar to those observed for Hispanic students at Grade 8, district-wide.

4. The median percentiles in language and mathematics for Black eighth graders were low in F73 and lower still in S79. In reading their estimated S78 median was appreciably lower than that for F73 but had improved by S79.

   Again the patterns of results at Grade 7 were similar across subdistricts. It is noteworthy, however, that the Southwest Blacks, on the average, significantly outperformed Blacks elsewhere in the District on all subtests. At Grade 8 the patterns were also similar across subdistricts. Again, the Southwest Blacks outperformed their peers in the other subdistricts.

Changes in grade-level percent of students at or above norm. Earlier we stated that we feel the best indication of the District's achievement is the percent of students who scored at or above the national, large-city 50th percentile. Our statements then apply here also. Thus, in Table 8 we display the percentages of students, classified by ethnicity, grade level and subdistrict, who scored at or above norm on the reading, language, and mathematics subtests on the ITBS. After examining this table, we reached the following conclusions, all of which are in agreement with those reported above.

1. Among White seventh graders a slight decrease in percent at or above norm in reading, but an even greater increase in percent at or above norm in mathematics, was observed in S79 from S78. Among Black students increases from S78 to S79 were observed in reading and mathematics. Hispanic students evidenced a small increase in mathematics.

2. At Grade 8 White students showed a decrease in percent at or above norm in reading and, to a lesser extent, in language since F73. The fact that the percent at or above norm in S79 was greater than that estimated for S78 may suggest a reversal in the trend. Among Hispanic students the percentages at or above norm in reading and language have not changed much since F73. In mathematics, however, there were more higher-achieving Hispanics in S79 than were estimated for S78. The percentages of higher achieving Black students have increased on all subtests, since F73.

3. Generally the percentages of students, of all ethnicities, at or above norm in each subdistrict reflected the patterns observed for ethnic classification at Grade 7 district-wide. There were a few notable exceptions, however. The percent of higher achieving Hispanic students in the Northeast Subdistrict increased significantly in S79 over that estimated for S78. This was true both in reading and mathematics. Among Black students, the greatest increase in percent at or above norm was observed in East Oak Cliff in reading and in the Southwest Subdistrict in mathematics.

4. At Grade 8 the trends for White students were also fairly similar across subdistricts. However, in the Northeast Subdistricts the decline in percent at or above norm in language was greater than that observed elsewhere. In the Southwest Subdistrict, the increase in number of higher achieving White students (in S79 over that estimated for S78) was greater than in the other subdistricts. Also, in the Northwest Subdistrict, Hispanic performance tended to suffer a decline, on all subtests, that was not observed in the other subdistricts. Black students in the Southwest Subdistrict in language and mathematics, and in East Oak Cliff in reading, increased their percent of higher achievers to a greater extent than occurred elsewhere.

TABLE 8

Changes in Percent of Students At or Above Norm Over Years (ITBS, Grades 7 & 8)

Grade	Sub-district	Year	White			Hispanic			Black			All		
			R	L	M	R	L	M	R	L	M	R	L	M
Grade 7	NW	*S78	70		61	18		14	9		7	35		31
		S79	65	63	61	14	19	16	10	13	8	31	33	30
	NE	*S78	57		39	19		14	5		4	34		24
		S79	57	51	48	25	25	25	8	10	6	34	32	29
	SE	*S78	40		30	20		16	9		6	25		18
		S79	39	37	34	16	15	14	11	12	9	25	24	22
	SW	*S78	45		35	14		10	18		10	25		18
		S79	45	42	40	14	17	13	20	25	17	25	27	22
	EOC	*S78							11		6	12		7
		S79							16	18	10	17	19	12
	Total DISD	*S78	53		41	17		13	11		7	26		19
		S79	51	48	46	16	19	16	14	17	10	26	27	22
Grade 8	NW	F73	78	65	58	15	16	11	8	8	6	43	39	34
		*S78	61		54	11		9	4		4	30		29
		S79	64	64	62	15	20	17	9	11	9	31	35	33
	NE	F73	69	57	50	26	25	23	5	7	4	51	44	38
		*S78	55		50	23		16	3		2	36		32
		S79	54	44	48	20	18	21	6	8	5	34	29	30
	SE	F73	46	38	32	21	22	18	8	9	5	32	27	23
		*S78	33		23	20		15	6		4	21		15
		S79	38	36	32	23	26	17	9	11	6	26	25	19
	SW	F73	54	44	35	14	14	9	18	16	9	38	32	23
		*S78	42		28	13		10	11		6	21		14
		S79	48	43	42	14	13	14	19	21	16	26	26	23
	EOC	F73							9	11	4	8	10	4
		*S78							7		4	8		5
		S79							12	13	8	13	14	8
	Total DISD	F73	60	50	44	16	16	12	9	10	5	35	31	26
		*S78	48		40	15		11	7		4	23		18
		S79	51	47	46	16	18	16	12	13	9	26	25	22

Achievement Trends of Same Students over Years (Cohort Longitudinal)

In this section we discuss the achievement growth of given cohorts of students over one year and three years. A cohort was defined as a group of students for whom test scores were available on two occasions over years. Thus, for this report, given the availability of data, three cohorts were identified: a grade 6-8 cohort (measured at Grade 6 in fall 1976 and again at Grade 8 in spring 1979), a grade 7-7 cohort (measured twice at Grade 7, once in fall 1978 and again in spring 1979), and a grade 8-8 cohort (measured at Grade 8 both in fall 1978 and spring 1979.)[2]

Comparison of growth rates with expected growth rates. By using the norms tables provided with the ITBS, it was possible to compute the expected rate of growth for each of the classifications given in Table 9. The actual growth rates could then be compared to their expected growth rates. From Table 9 we see that in nearly every case achievement growth equaled or exceeded expected growth. Exceptions occurred in language achievement for the grade 6-8 cohort. The table further illustrates, however, that in nearly every case achievement levels in these cohorts were below norm.

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[2] We could have estimated S78 scores as we did when discussing achievement trends across grade levels, but since in this section we are considering trends for specific individuals, our estimate would do nothing but subtract a constant from the F78 scores. This would not have affected the cohort trends.

TABLE 9

Summary of Cohort Achievement Over Grades 6-8

Cohort	Sub-Dist.	White			Black			Hispanic			All		
		R	L	M	R	L	M	R	L	M	R	L	M
Grade 6-8	NW	B+	B+	A+	B-	C-	B-	B-	B-	B-	B-	B-	B-
	NE	B+	C	B	B-	B-	A-	A-	C-	A-	B-	C-	A-
	SE	C	C-	B-	B-	B-	B-	A-	B-	A-	B-	B-	B-
	SW	B	B-	A-	B-	B-	A-	B-	C-	A-	B-	C-	A-
	EOC				B-	B-	B-				B-	B-	B-
	DISD	B+	C	B	B-	B-	A-	B-	C-	B-	B-	C-	A-
Grade 7-7	NW	B+		B+	B-		B-	B-		B-	B-		B-
	NE	B+		A	B-		B-	A-		A-	B-		A-
	SE	B-		A-	B-		B-	B-		B-	B-		B-
	SW	B		A-	B-		A-	B-		B-	B-		A-
	EOC				B-		B-				B-		B-
	DISD	B+		A	B-		A-	B-		B-	B-		B-
Grade 8-8	NW	B+		B+	B-		B-	B-		B-	B-		A-
	NE	B+		A	B-		B-	B-		A-	B-		A-
	SE	B-		B-	B-		B-	B-		B-	B-		B-
	SW	B		A-	B-		A-	B-		B-	B-		A-
	EOC				B-		B-				B-		B-
	DISD	B+		B	B-		B-	B-		B-	B-		B-

R = Reading, L = Language, M = Mathematics

A = Exceeds growth of norm group at appropriate point on distribution.

B = Equals growth of norm group at appropriate point on distribution.

C = Falls short of growth of norm group at appropriate point on distribution.

+ = Finished above norm, - = Finished below norm.

Comparisons of achievement of students retained vs. students lost and gained. Median percentile scores of both cohort and non-cohort students at Grades 7 and 8 are presented in Table 10. Cohort students, again, were those who could be identified as having been pretested in F78 and posttested in S79. Non-cohort students are those who could be identified as having been pretested or posttested but not both. The reasons explaining the presence of non-cohort students could be manifold; four are listed here: (1) after a student was pretested, he left the district before he was posttested, (2) a student was available for posttesting only, having recently entered the district, (3) a student was not in attendance at school for one of the testings, and (4) a student's identification codes were erroneous on at least one testing record so that his records could not be matched across time. For the sake of brevity, reasons (1) and (2) will be used to describe all cases in the discussion below.

1. In all comparisons involving pretests, cohort students outperformed non-cohort students, on the average. This implies that those students who remained to be posttested at the end of the year were better achievers than those who were lost.
2. In all comparisons involving posttests, cohort students outperformed non-cohort students, on the average. This implies that those students whom the district retained were better achievers than those whom the district gained throughout the year.

Summary

Having considered all the data presented above, we were able to arrive at the following conclusions regarding District achievement at Grades 7 and 8.

TABLE 10

Median Percentile Scores of Cohorts and Non-cohorts
Grades 7 and 8

	Reading				Mathematics			
	Cohort		Non-cohort		Cohort		Non-cohort	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Grade 7: Fall 1978-Spring 1979								
NW	30	25	13	12	21	22	5	6
NE	34	34	16	14	19	27	5	4
SE	28	27	13	12	15	22	5	6
SW	24	24	12	16	13	14	5	8
EOC	16	19	7	10	6	8	3	3
Grade 8: Fall 1978-Spring 1979								
NW	32	28	15	12	25	29	12	8
NE	34	36	11	13	23	28	5	6
SE	25	27	13	11	17	24	8	8
SW	25	25	13	10	17	19	5	6
EOC	11	13	7	5	5	6	3	2

1. The past year's achievement results were similar to the previous year's results in Grade 7 and had improved in Grade 8.
2. White students at both grade levels were above norm in reading and near norm in language and mathematics. Minority students, on the other hand, performed at a level well below norm.
3. District seventh and eighth graders performed at a level equal to or greater than that expected, based upon the previous year's level of performance, in nearly every ethnic-grade level classification.
4. Although the District loses and gains students in large numbers over relatively short periods of time, we did present some evidence that those students who remain with the District are better achievers than those who are either gained or lost.

RE79-803-61-30

An Interpretative Analysis of System-wide Achievement Data, 1978-79
Grades 9-12

George H. Olson and James A. Meier

The purpose of this report is to provide a summary and interpretation of system-wide achievement results for Grades 9-12, contained in the following System-wide Evaluation reports.

1. Norm-referenced Performance Profiles 1979 (Meier, Whitmore, and Olson, IR79-006-31-30 through IR79-006-36-30).
2. Quasi-Longitudinal Achievement Trends 1976-79 (Meier and Eberhart, IR79-008-31-30 through IR79-007-35-30).
3. Cohort-Longitudinal Achievement Trends 1976-79 (Meier and Eberhart, IR79-008-31-30 through IR79-008-35-30).
4. Basic Objectives Assessment Tests Profiles 1979 (Meier, IR79-009-31-26 through IR79-009-36-26).

In interpreting the achievement results summarized in these documents, we also make use of results contained in the following documents.

5. 1978-79 School Holding Power Study (Marcus and Julian, IR79-012-31-10).
6. Eleven-year Enrollment Trends (Sheehan and Berry, IR79-091-31-05).
7. Enrollment Projections for 1979-83 (Sheehan and Berry, IR79-088-31-05).

Context

Desegregation

On 7 April 1976, the U.S. District Court for the Northern District of Texas, Dallas Division, divided the DISD into six subdistricts and established a system of uniform grade configurations, one of which consisted of 9-12 schools. The Court Order also held that four of the six subdistricts were to approximate the district-wide ethnic composition within plus or minus 5 percent. Of the two remaining subdistricts, one, East Oak Cliff, was to be left almost entirely Black, and one, Seagoville, was to be left majority White.

Of the four subdistricts involved in the requirement to achieve ethnic parity with the total district, one, the Southwest Subdistrict, was to a large extent already naturally integrated and thus only moderately involved in the court-ordered, desegregation plan. The remaining three subdistricts were to be heavily involved.

The Court Order ruled that ethnic parity in the involved subdistricts would be established by bussing students of all ethnicities in Grades 4 through 8. This resulted in over 16,000 students being bussed for purposes of desegregation when school opened in August, 1976. Many of these students were to be transported (and many desegregated) for the first time. At that time there was a stepped-up effort to provide alternative modes of education (e.g., the magnet schools) to serve special needs of students of all ethnicities. At the same time, the District appeared to accelerate its drive to get "back to the basics."

Another factor, one that has been operating in the District for quite some time, is that of a declining student enrollment. We are all aware that the population of students in the Dallas Independent School District has changed markedly over the last several years. For one thing the sheer number of students has decreased from a peak enrollment of around 160,000 in 1968-69 to approximately 134,000 students in 1978-79 Moreover, this enrollment decline has not been proportional across all ethnic groups and across all subdistricts.

Enrollment Data

Enrollment trends, along with enrollment projections, have been plotted in Figures 1-5, for five subdistricts (Seagoville has been pooled with the Southeast Subdistrict). From these graphs we conclude that, from 1968, Grade 9-12 enrollment has declined sharply in the Northwest Subdistrict, declined more gradually in the Southeast and Southwest Subdistricts, and has increased in the Northeast and East Oak Cliff Subdistricts. Furthermore, we see that enrollment trends within subdistricts have not been uniform across ethnic classifications. While White enrollment has shown a more or less severe decline everywhere except in East Oak Cliff, where there were originally few White students, minority enrollments have tended to hold steady or grow gradually over years. Hispanic enrollment has especially tended to increase over the past several years in nearly all subdistricts.

There is an apparent anomaly in the enrollment graph for the Northeast Subdistrict. In this subdistrict our data showed a sudden increase of some 1,400 to 1,500 students, mostly Black, from 1975 to 1976. We surmised that this increase was caused largely by the creation of Madison as a high school, drawing students who had been previously assigned to the East Oak Cliff Subdistrict or previously bussed into the Northwest Subdistrict.

Student Turnover

Another phenomenon, related to enrollment, that should be taken into account when interpreting the achievement results reported in this document is the mobility of the District's student population. While

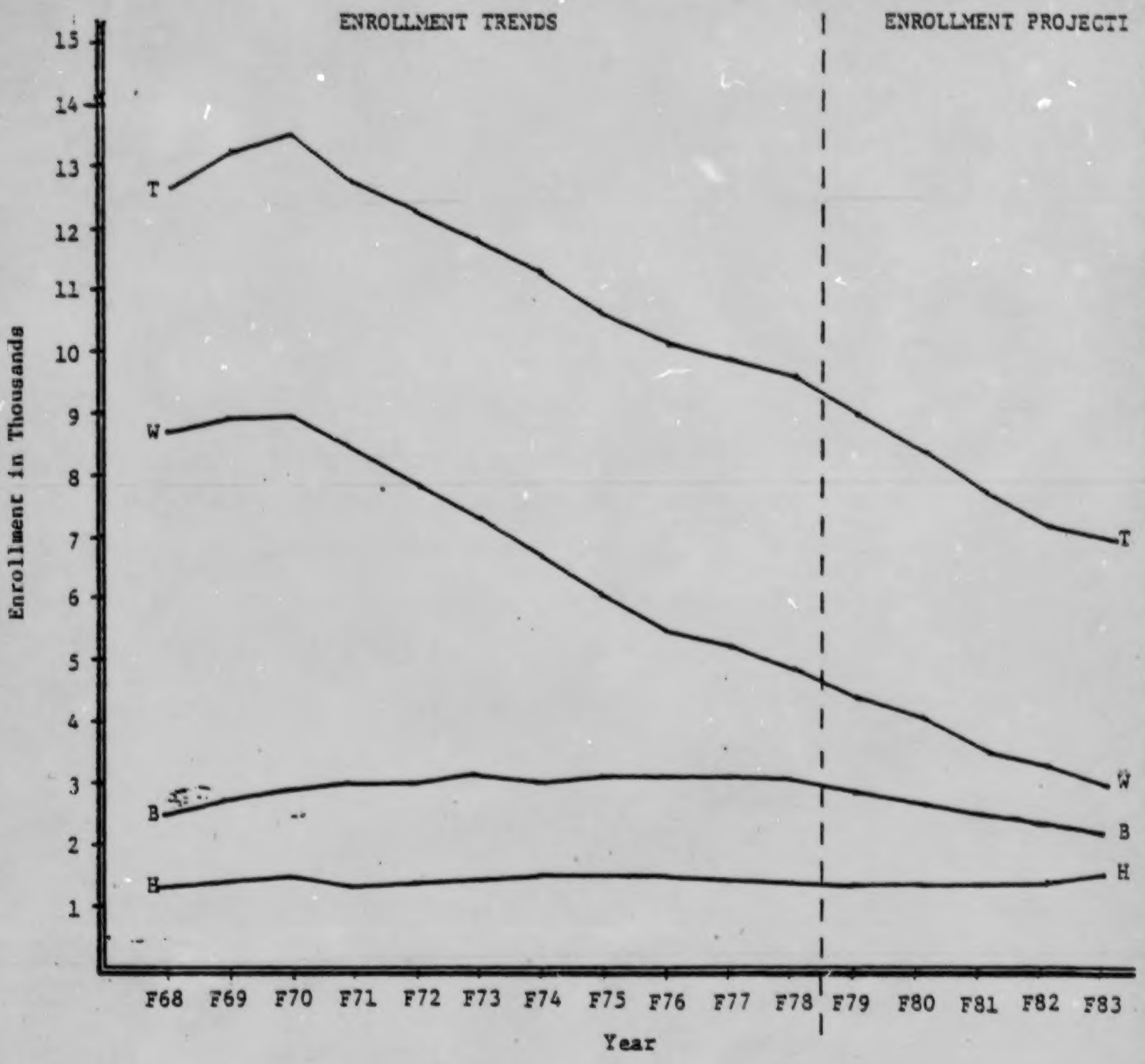

Figure 1

Enrollment Trends and Projections

Northwest Subdistrict
Grades 9-12

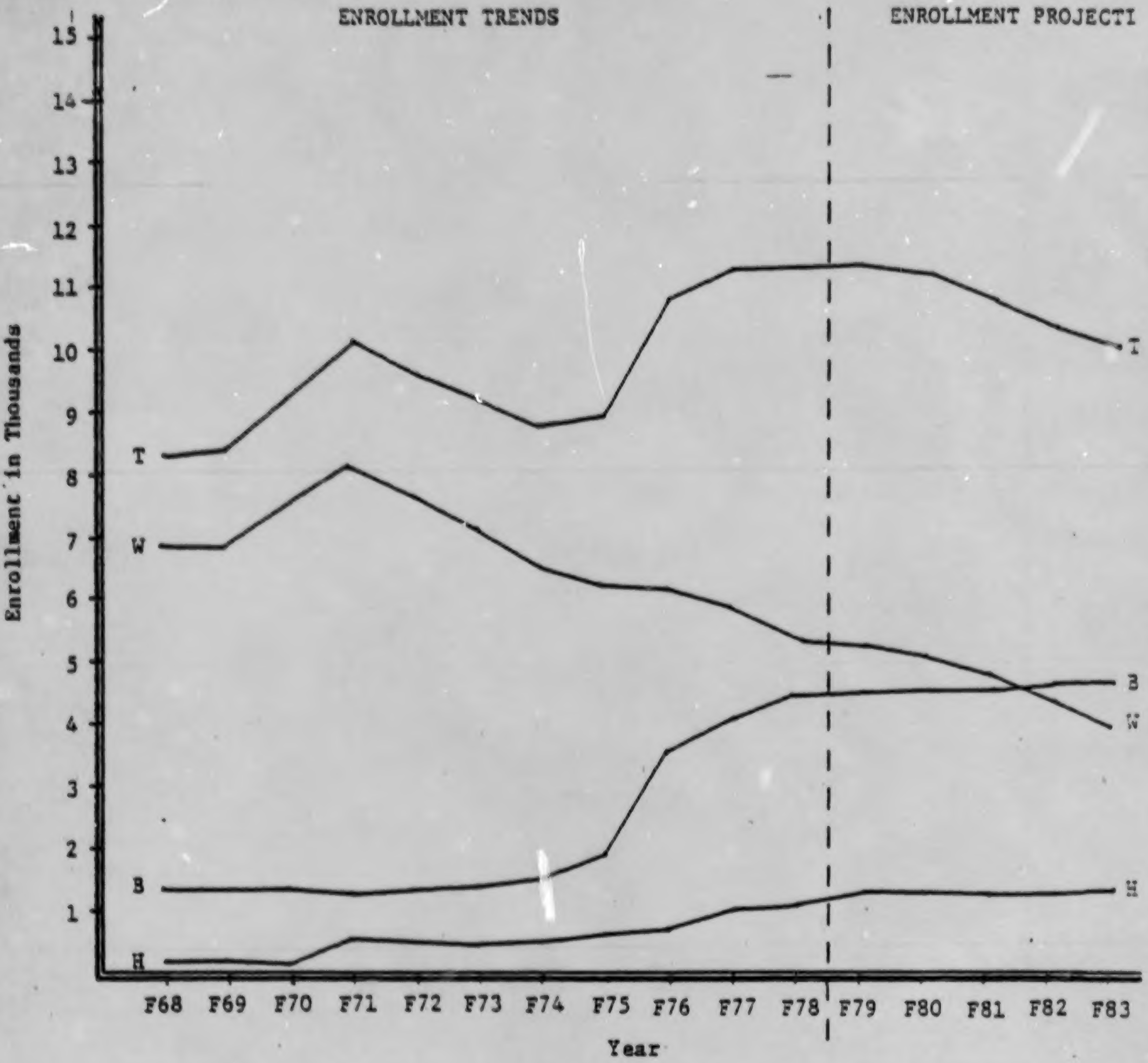

Figure 2

Enrollment Trends and Projections

Northeast Subdistrict
Grades 9-12

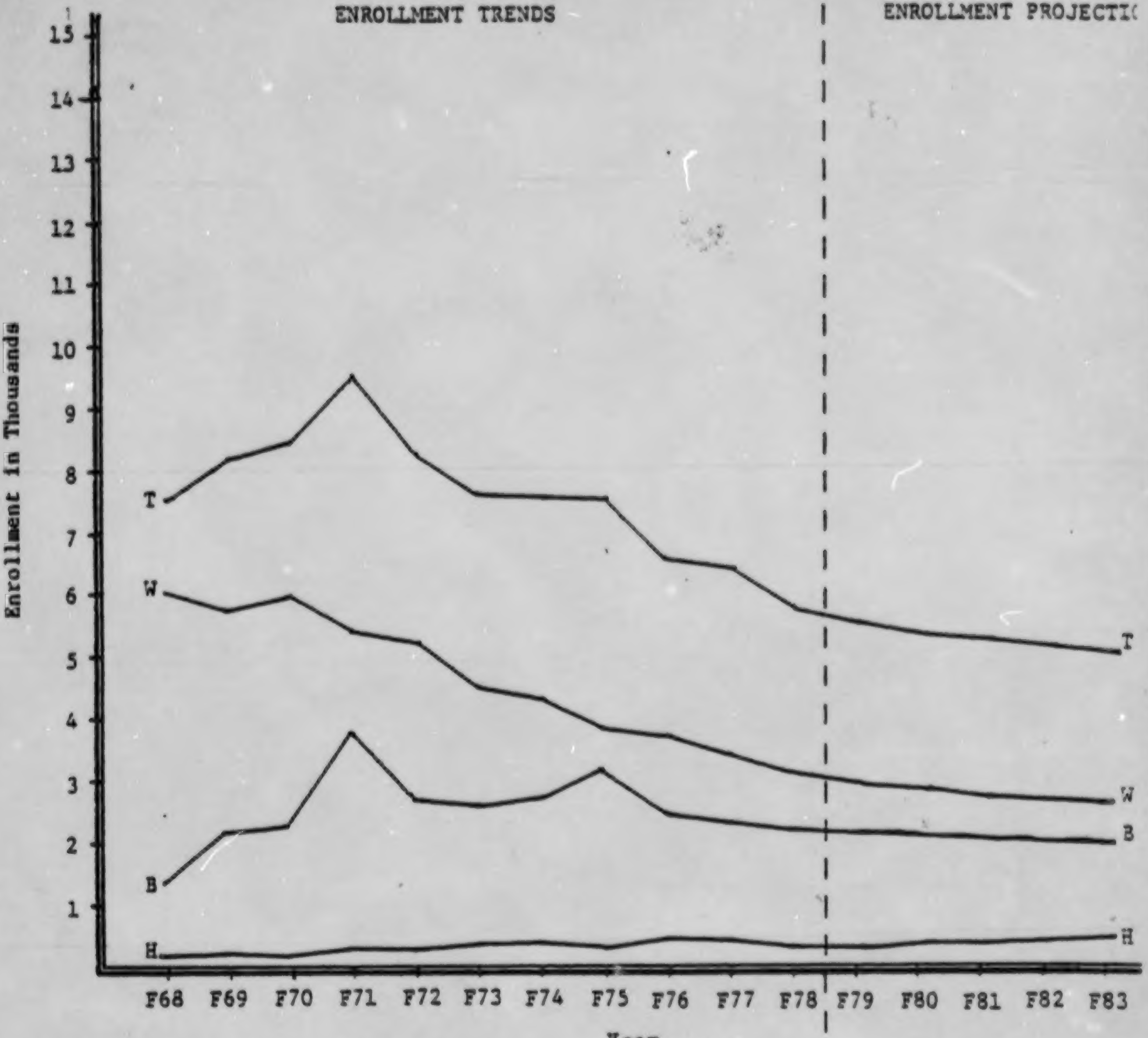

Figure 3

Enrollment Trends and Projections
Southeast Subdistrict
Grades 9-12

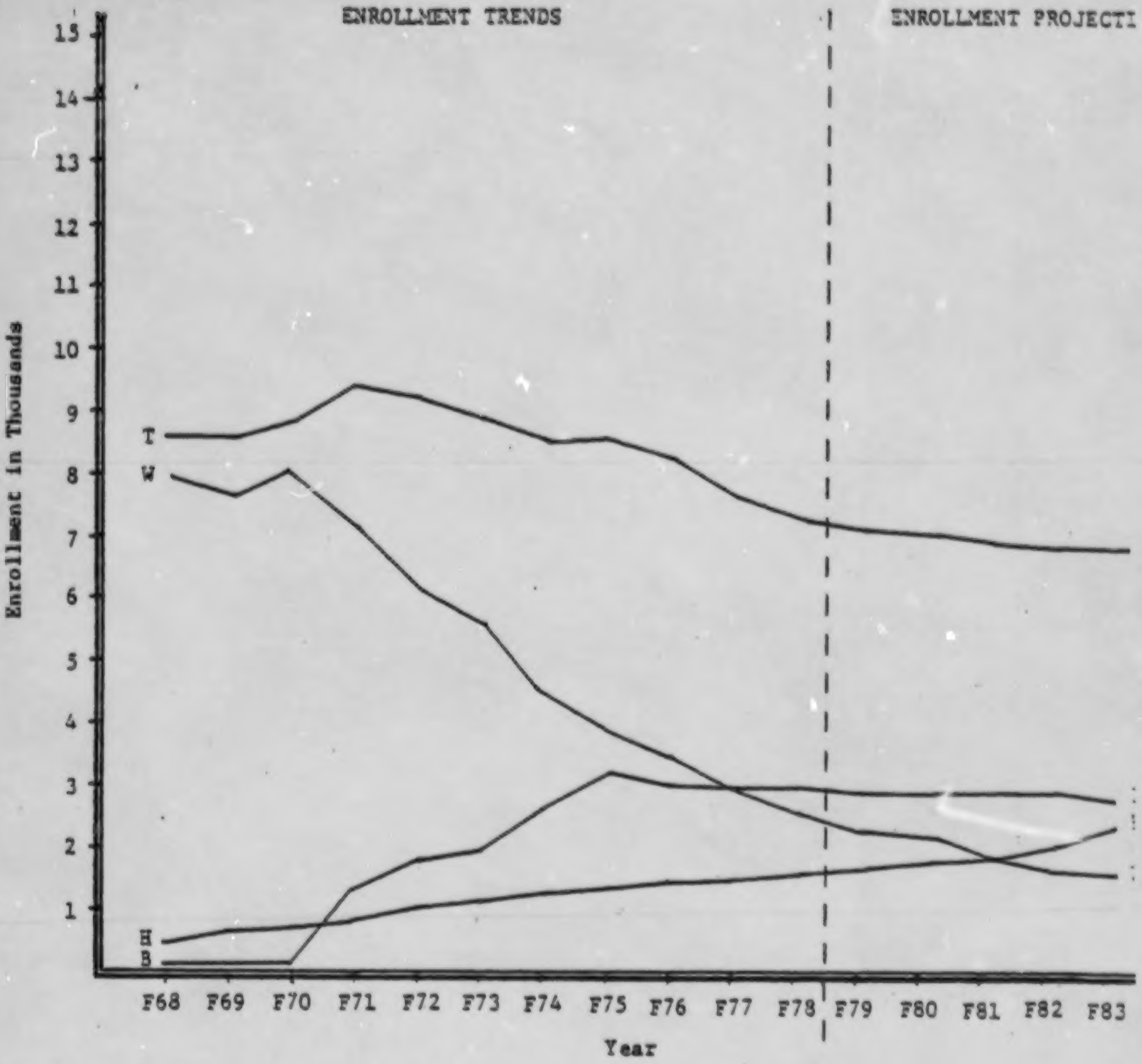

Figure 4

Enrollment Trends and Projections

Southwest Subdistrict
Grades 9-12

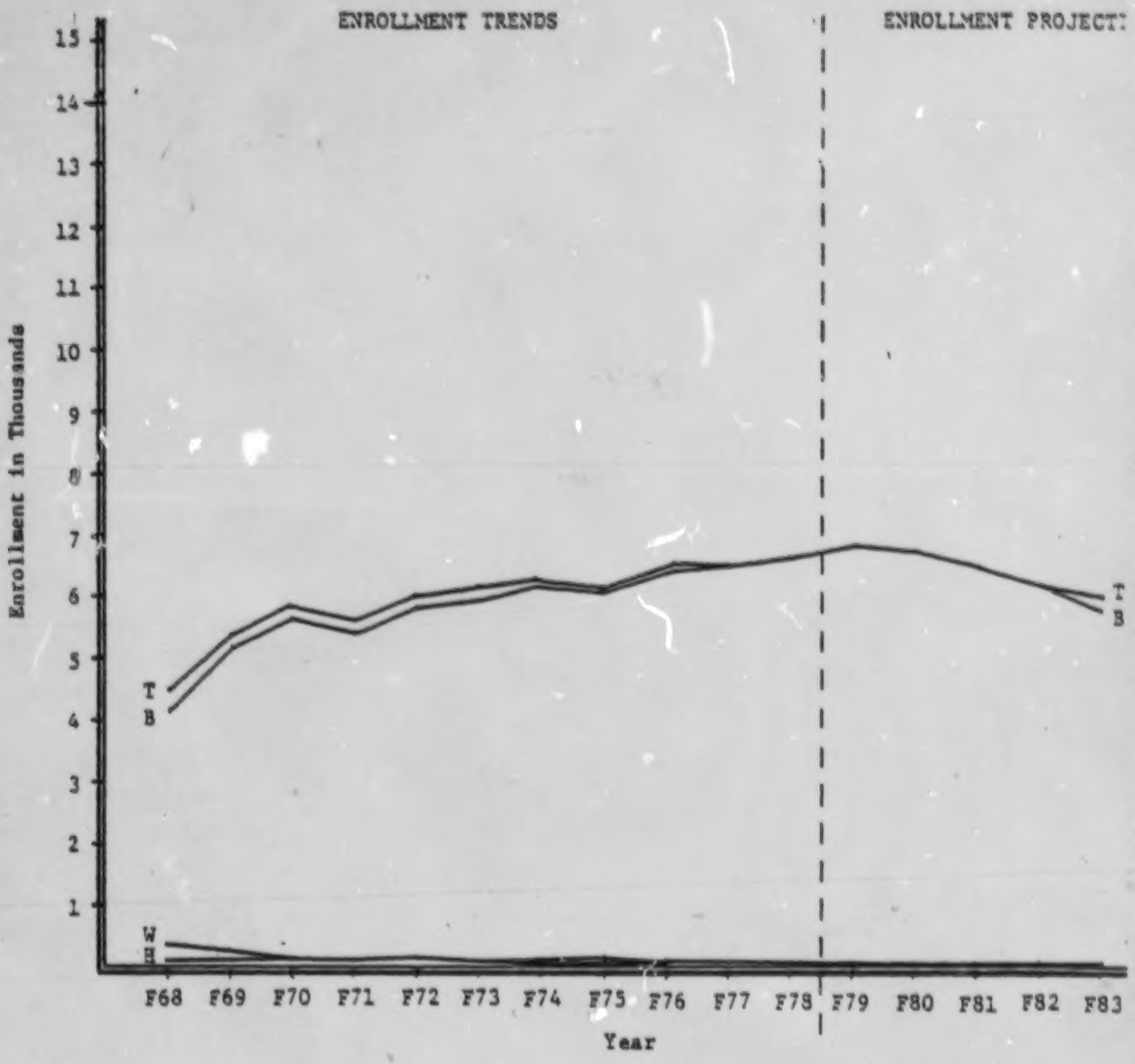

Figure 5

Enrollment Trends and Projections
East Oak Cliff Subdistrict
Grades 9-12

enrollment trends show changes in net enrollment over years, they do not yield information on the number of individual students who are lost or gained over the period. To study these changes it is necessary to examine the membership of given groups of students over years as has been done in Table 1. In this table we compared the Grade 9 membership in fall 1975 with the Grade-12 membership in spring 1979. Students who were enrolled in 1975 and still enrolled in 1979 were labeled "retained" students. Students enrolled in 1979, but not enrolled in 1975 were considered new or "gained" students.

Table 1 implies a considerable amount of student turnover in Grades 9-12. By fall 1979 this group had lost over 38 percent of its original group members and had gained nearly 25 percent of its 1979 group members. Over the four years studied there was a net loss of 38.42 percent of the members in this group. This represents a remarkable change in the Grade 9-12 student population over just four years. What effect this has had on district achievement trends can only be surmised. However, as we shall see later, there may be some evidence to suggest that those students whom the District retained were better achievers than those whom it either lost or gained.

Student Nonattendance

We investigated another set of data which upon analysis suggested that actual high school enrollment (defined as students who attend school regularly) may be even lower than that implied by the data we have just considered. This past year we investigated the extent to which District students who never attended class were still carried on the District

Table 1

Changes in Student Population from the Expected Enrollment for Grade 9, Fall 1975 to Grade 12, Spring 1979

Ethnicity		Retained[a]		Gained[b]		Net[c]	
		N	%	N	%	N	%
	Male	1183	46.08	316	20.94	-1068	-41.60
BLACK	Female	1296	49.90	416	24.23	-885	-34.08
	Total	2479	48.01	732	22.69	-1953	-37.82
	Male	1301	46.22	464	26.32	-1050	-37.30
OTHER	Female	1291	48.74	461	26.31	-897	-33.86
	Total	2592	47.44	925	26.32	-1947	-35.63
	Male	248	34.69	87	25.74	-380	-53.15
HISPANIC	Female	228	36.42	79	25.65	-319	-50.96
	Total	476	35.50	166	25.70	-699	-52.13
	Male	2732	44.81	867	24.02	-2498	-40.97
TOTAL	Female	2815	47.94	956	25.31	-2101	-35.78
	Total	5547	46.35	1823	24.68	-4599	-38.42

[a] This column represents retentions from the spring of 1975, Grade 8 to the spring of 1979, Grade 12.

[b] This column represents gains to the 1979, Grade 12 population due to new students entering the DISD after the spring of 1975, Grade 8.

[c] This column represents changes relative to the spring of 1975, Grade 8 population.

schools' enrollment rosters. "Nonattenders" were identified by searching the District's student database for students who were absent from school more than 25 percent of the time and had received an "F" in all graded classes. Districtwide, the percentages of enrolled students who were classified as nonattenders were as shown in Table 2. A district-wide breakdown of these data by ethnicity is given in Table 3. These data are alarming. Significant proportions of the District's high school students do not attend school yet continue to be included on the District's enrollment roster.

Further analyses of these data indicated significant correlations between attendance/nonattendance and achievement with a higher incidence of nonattendance among poorer-achieving students (test data from earlier years were used as our measure of achievement). These findings should be borne in mind when we look at the achievement results in the sections which follow.

1978-79 Achievement

In this section we summarize the District's achievement for the 1978-79 school year in Grades 9-12. It should be pointed out that, for the purpose of this report, achievement is rather narrowly defined as performance on one or more of the test batteries administered by the District's System-wide Testing Program. In 1978-79 the system-wide testing paradigm was as shown in Table 4. Achievement results will be presented for the ITED and BOAT, in turn.

TABLE 2

Number and Percent of District High School Enrollment Who Do Not Attend School

	Grade 9	Grade 10	Grade 11	Grade 12
N	1,776	1,281	1,057	486
%	15.0	12.6	12.0	6.7

TABLE 3

Number and Percent of District High School Enrollment by Ethnicity Who Do Not Attend School

	White	Black	Hispanic
N	4,903	3,005	1,098
%	8.5	10.5	14.3

TABLE 4

Numbers of Students in Grades 9-12 Tested in 1978-79 by Grade Level and Test Battery

	Grade Level			
	9	10	11	12
ITED	9,392	8,240	7,166	
BOAT	10,265	9,182	7,823	6,961

Iowa Tests of Educational Development (ITED) Results

The test results for the ITED at Grades 9-11 are summarized in Table 5 by district, subdistrict, grade level, ethnic classification, and subtest. This table displays two types of information: (a) percentile ranks of median scoring students, and (b) the percentages of students who scored at or above norm, i.e., at or above the national, large-city 50th percentile, for each level of classification in the table.

Median percentile scores. The median percentile scores displayed in column "a" of Table 5 give the national, large-city percentile scores attained by the middle-scoring students in a group defined by a given level of classification in the table. By definition a median percentile of 50 is equivalent to the score attained by the middle-scoring student in the national, large-city norming population.

Besides providing a rough index of the level of group performance on the ITED, median percentiles allow us to compare performance levels across subtests. Thus if the median student in a group scores at a higher percentile in reading than in mathematics he is said to have performed better in reading than in mathematics. Accordingly, after examining the median percentiles in Table 5, we arrive at the following conclusions.

1. Median percentile scores of White students were above norm on all subtests and grade levels except in Grade 9 mathematics, where the median was essentially at norm. Median performance in reading was superior to that in language and mathematics. On all subtests median scores were lower in Grade 9 than in the upper grades, a result possibly due to the dropout loss of lower-achieving White students after Grade 9. Median performance was highest in the Northwest Subdistrict on all three subtests and lowest in the Southeast Subdistrict in reading and language.

TABLE 5

Summary of 1978-79 ITED Results for Grades 9-11

		White						Hispanic						Black						All Races					
		R		L		M		R		L		M		R		L		M		R		L		M	
		a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
	9	69	72	66	65	61	59	17	12	18	19	35	20	14	7	11	11	35	18	30	32	32	33	36	39
NW	10	74	80	69	71	66	72	20	25	20	30	38	29	11	12	8	15	28	18	53	52	45	49	51	50
	11	75	80	68	71	75	77	22	26	26	24	35	33	11	9	9	12	28	16	56	54	48	49	57	56
	9	63	62	59	58	56	55	27	25	26	27	42	27	19	17	18	23	35	21	40	40	37	41	42	39
NE	10	71	72	64	65	62	66	34	33	31	32	38	38	20	22	20	26	38	29	51	51	43	48	51	51
	11	69	71	64	64	62	66	24	36	31	34	41	35	20	17	17	22	35	23	51	51	46	48	52	50
	9	40	34	31	32	42	31	21	20	18	24	35	28	17	5	16	9	35	16	24	22	23	23	35	25
SE	10	49	49	42	45	51	52	30	25	23	34	38	29	13	9	11	12	31	24	31	32	23	32	38	40
	11	48	47	42	42	47	44	24	24	28	28	35	27	15	10	14	10	28	14	28	32	26	30	35	32
	9	45	45	45	44	42	41	19	15	18	18	35	20	19	9	18	17	35	15	24	22	23	26	35	24
SW	10	57	57	50	51	51	54	23	21	23	27	35	25	18	17	16	22	31	19	31	32	25	33	38	32
	11	61	59	50	51	57	56	26	24	28	30	35	25	16	18	17	21	35	23	30	36	30	35	41	37
	9													14	5	11	11	28	14	14	5	11	11	28	14
EOC	10													11	11	10	15	31	16	11	11	10	15	31	16
	11													11	9	10	11	28	11	11	9	10	11	28	11
	9	57	56	53	53	49	49	21	17	18	21	35	22	17	9	16	15	35	16	24	27	26	30	35	29
TOTAL	10	67	68	61	60	62	63	28	26	25	30	38	30	15	15	11	20	31	21	33	38	33	38	38	40
	11	66	67	60	60	62	64	24	28	28	29	35	30	15	13	14	16	28	17	36	40	32	38	41	40

2. Median percentile scores of Hispanic students were below norm on all subtests and grade levels. They were higher in mathematics than in reading and language, and somewhat lower in Grade 9 than in the upper grades, a result possibly due to the dropout loss of lower-achieving Hispanic students after Grade 9. Median performance was generally highest in the Northeast Subdistrict on all three subtests.

3. Median percentile scores of Black students were below norm on all three subtests and grade levels. They were higher in mathematics than in reading and language. As grade levels increased, median scores declined in mathematics. Among subdistricts, median Black performance was somewhat higher in the Northeast and Southwest than in the three remaining subdistricts.

Percent above the 50th percentile. We feel that the best indication of the District's achievement level is given by the percent of students who attained scores at or above the national, large-city 50th percentile (at or above norm). Certainly this statistic is the easiest to comprehend and is less susceptible to erroneous interpretation.

A careful study of the percentages shown in column "b" of Table 5, leads us to the following statements.

1. The percentages of White students at or above norm were greatest in reading (at all grade levels) and lowest in language (Grades 10 and 11) and mathematics (Grade 9). There were higher percentages of higher achieving Whites at Grade 10 than at Grade 9. At Grade 11, however, the percentages of higher achievers were not appreciably different from Grade 10. Although the other subdistricts tended to reflect the district-wide White students trend, the percentages of higher achievers in the Southeast Subdistrict decreased more than usual, especially in mathematics.

2. Among Hispanic students the percentages of higher achieving students were approximately equal across subtests within Grade levels. The percentages of higher achieving Hispanic students at Grade 11 were not appreciably different from Grade 10. The percentages at Grade 10, however, were significantly higher than those reported for Grade 9. For the most part the subdistricts tended to mirror the district-wide results for Hispanics. The Southeast Subdistrict was a little deviant, however, in that the percent of higher achievers did not increase as much (as elsewhere) in mathematics at Grade 10.

3. In terms of percent of students at or above norm, Blacks performed better in language and mathematics than in reading. Across grade levels the best performance occurred at Grade 10. The percentages of higher achieving Black students were somewhat lower at both Grades 9 and 11. Across subdistricts, the only noticeable variations occurred in mathematics. Thus, in the Northwest there was no appreciable change in the percent of higher achieving Black students across grade levels. In both the Northeast and Southeast Subdistricts the percent of higher achievers increased more than usual at Grade 10 and correspondingly decreased more than usual at Grade 11.

Percent of students classified as below average, average, or above average. Students may be classified as scoring below average, average, or above average depending upon whether they scored below the 25th percentile, between the 25th and 75th percentile, or above the 75th percentile, respectively. By definition, 25 percent of the national, large-city norming population scored in each of the lower and upper intervals, while the remaining 50 percent scored in the middle interval.

On the basis of this past year's results, District students in Grades 9-11 were distributed across these intervals as shown in Table 6. Here the testing results are cast in a somewhat different light. The data in this table support the following interpretations.

1. Among the District's White students there was consistently a higher percentage of above average students and a lower percentage of below average students than in the norm group.

2. District Hispanic students evidenced larger proportions of below average students than did the norm group. They were closest to the norm in mathematics.

3. Among the District's Black students there was consistently a higher percentage of below average performance than in the norm group. The closest approximation of norm group performance was in mathematics.

TABLE 6

Percent of Students Below Average, Average, and Above Average on the ITBS, Grades 9-11

	Reading			Language			Mathematics		
	BA	AV	AA	BA	AV	AA	BA	AV	AA
Grade 9									
White	21	49	30	26	47	27	24	61	25
Black	71	27	2	65	30	5	33	65	2
Hispanic	59	36	5	55	38	7	28	66	6
All	51	36	13	49	38	13	25	64	11
Grade 10									
White	15	48	37	24	42	34	15	54	31
Black	66	31	3	36	58	6	45	52	3
Hispanic	49	45	6	50	41	9	35	60	5
All	43	39	18	45	37	18	31	54	15
Grade 11									
White	15	46	39	22	41	37	11	52	37
Black	69	28	3	65	30	5	42	55	3
Hispanic	52	29	9	46	42	12	32	61	7
All	42	38	20	43	36	21	27	54	19

BA = Below Average

AV = Average

AA = Above Average

Basic Objectives Assessment Test (BOAT) Results

The BOAT was administered at Grades 9-12 early in 1979. This test is a criterion-referenced instrument designed to measure student progress toward mastery of basic skills and knowledge in seven functional applications: consumerism, community, medical, home, employment, government, and information sources. Eventually, all high school graduates will be required to have passed this test.

The BOAT results for Grades 9-12 are summarized in Tables 7 and 8. From Table 7 we see that the mean percent of items correct increased with grade level, as expected. By grade 12, District students were able to answer an average of 80 percent of the items correctly.

The data in Table 8 are perhaps of greater interest due to the District's adopted (future) policy of requiring that each student correctly answer at least 70 percent of the items in order to graduate. Thus, in Table 8 we see that the percentage of students meeting the 70 percent criterion jumps considerably from Grade 9 to Grade 10 whereafter there is only a gradual increase. Had the 70 percent criterion been enforced for graduation in the 1978-79 school year, approximately 21 percent of the twelfth graders would not have been given a diploma.

Among those items missed most frequently by 11th and 12th graders were items dealing with the following:

elections
budget
geometry
salary and wages
income
levels of government
newspaper
facts and opinion

sales tax
consumer rights and responsibilities
control of communicable diseases
lobbyists and pressure groups
federal economic control
branches of federal government
two-party political system

TABLE 7

Mean Percent Correct Items on BOAT for Grades 9-12[a]

	White	Hispanic	Black	All
Grade 9				
NW	83	64	55	70
NE	81	71	62	73
SE	74	66	59	68
SW	76	66	61	67
EOC			59	59
DISD	80	69	60	68
Grade 10				
NW	87	72	62	78
NE	86	73	68	79
SE	80	72	68	73
SW	81	71	67	73
EOC			64	64
DISD	84	72	66	75
Grade 11				
NW	90	76	69	83
NE	89	78	70	82
SE	83	74	66	76
SW	86	75	71	78
EOC			67	67
DISD	88	76	69	78
Grade 12				
NW	91	79	70	85
NE	90	81	74	85
SE	85	77	69	79
SW	88	79	71	80
EOC			71	71
DISD	89	79	72	81

[a] Number of items = 125.

TABLE 8

Percentage of High School Students Correctly Answering Various Percentages of Items on BOAT[a]

	20%	30%	40%	50%	60%	70%	80%	90%
				Grade 9				
NW	99	97	92	83	70	56	39	17
NE	99	97	93	86	77	54	46	18
SE	99	97	93	82	69	51	29	8
SW	99	98	92	82	58	49	26	7
EOC	99	94	86	70	50	26	10	1
DISD	99	97	29	82	69	52	33	11
				Grade 10				
NW	99	99	96	91	83	72	58	30
NE	99	99	97	93	87	75	57	28
SE	99	98	95	89	80	63	42	19
SW	99	99	96	90	80	63	39	14
EOC	99	97	91	79	61	40	18	4
DISD	99	98	96	90	81	66	47	20
				Grade 11				
NW	99	99	98	95	91	81	68	43
NE	99	99	98	96	90	81	66	40
SE	99	98	96	92	84	71	52	21
SW	99	99	98	95	87	72	23	24
EOC	99	98	94	84	68	47	52	4
DISD	99	99	97	93	86	73	55	29
				Grade 12				
NW	99	99	98	96	92	85	72	48
NE	99	99	99	97	93	85	74	47
SE	99	99	97	93	86	75	57	27
SW	99	99	98	95	89	75	58	29
EOC	99	98	95	87	75	55	32	10
DISD	99	99	98	94	89	78	62	35

[a] Number of Items = 125.

Longitudinal Achievement

In the previous section we considered only those data collected during spring 1979. In this section we consider those data again, only this time as part of a trend in achievement over years. Two types of longitudinal data are discussed. The first of these, what we call quasi-longitudinal data, measures performance at the same grade level over at least two points in time. Within any particular grade level the student populations for any two or more years are different and thus confounded with any presumed "educational" effect over the same years. In fact, if the quasi-longitudinal trends show positive or negative gains over years, then to be able to attribute these gains to instructional or curriculum effects it is necessary to assume that the populations are essentially the same in all ways related to ability and achievement. We have already seen that the population for at least one class of students, those who entered ninth grade in 1975, experienced a dramatic change in membership over the last three years. Furthermore, we know that the ethnic proportions of Grades 9-12 have changed considerably over the last several years with the percent White enrollment showing a sharp decline. To what extent these changes are related to achievement trends independently of educational effects can only be surmised.

The second set of longitudinal data we discuss, what we call cohort-longitudinal data, consists of test scores on the same individuals across grade levels over years. To a certain extent these data control for differences brought about by population shifts and are therefore more sensitive to District educational treatment effects. The interpretation of these data are not exactly clear-cut, however, for they are susceptible to a different source of confounding: that of selection bias. In order to clearly attribute trends in cohort-longitudinal results to corresponding trends in educational treatment, it is necessary to assume that the population shifts that have occurred in Grades 9-12 have been random with respect to achievement and ability levels of students lost. If those students lost were poorer-achieving students than those who remained (a possibility for which we have some evidence) then at least some portion of any positive gains in achievement evidenced in the trend data would have to be attributed to this fact alone, independently of any positive educational effects. Of course, the converse also holds.

Grade Level Achievement Trends Over Years (Quasi Longitudinal)

In this section we discuss achievement trends for each of the grade levels 9-11. In these analyses we use data collected from system-wide testing in spring 1978 (S78) as pretest data, and data collected in spring 1979 (S79) as posttest data.

Changes in grade level medians. The first set of data we look at are changes in median percentile rankings over years. Before doing so, however, we would like to point out that changes in percentiles signify different magnitudes of change in achievement level at different points along the percentile continuum. Thus, a change in percentiles at the ends of the continuum (1-25, 75-99, say) are to be interpreted as being more significant in terms of changes in achievement level than are changes around the mid-portion of the continuum (25-75, say). Also, changes in percentiles in a direction away from the mid-point can be regarded as more important than comparable changes in a direction toward the mid-point. To take a concrete example, a change from the 48th to the 58th percentile does not signify as great a change in achievement level as does a change from the 58th to the 68th percentile. Furthermore, a change from the 68th to the 58th percentile is usually not as important as a change from the 58th to the 68th percentile. The reasons for these differences in interpretation of percentile changes tend to be highly technical and thus beyond the scope of this presentation.

Median percentiles attained on the ITED for groups (students in Grades 9-11) in the springs of 1978 and 1979 are displayed in Table 9. An inspection of this table leads to the following interpretations.

1. Median percentile scores of White students improved somewhat in reading at Grade 11 and in mathematics at Grades 10 and 11 from 1978 to 1979; in other instances they remained stable. Among subdistricts, gains occurred most frequently in all grades in the Southwest, and in Grade 11 in the Southeast.

2. Median percentile scores of Hispanic students improved somewhat in reading and language at Grade 10 and in language at Grade 11 from 1978 to 1979; in other instances they remained stable. Among subdistricts, gains from 1978 to 1979 were scattered over grades and subtests. No noticeable gains were made in any subdistrict at Grade 9, in the Northwest at Grade 10, and in the Northeast at Grade 11.

3. Median percentile scores of Black students remained stable from 1978 to 1979 in all three subtests at all three grade levels, except for a gain in reading at Grade 11. Among subdistricts, gains from 1978 to 1979 were scattered over grades and subtests: at Grade 9 in mathematics in the Northwest; at Grade 10 in language and mathematics in the Northeast; and at Grade 11 in reading and mathematics in the Northeast, in reading in the Southeast, and in mathematics in the Southwest.

TABLE 9

Changes in Large City Percentile Rankings over Years (ITBS, Grades 9-11)

Grade Level	Sub-district	Year	White			Hispanic			Black			Total		
			R	L	M	R	L	M	R	L	M	R	L	M
Grade 9	NW	S78	68	62	61	19	16	35	14	14	28	37	31	42
		S79	69	66	61	17	18	35	14	11	35	35	31	42
	NE	S78	64	62	56	27	28	42	17	16	35	40	37	42
		S79	63	59	56	27	26	42	19	18	35	40	37	42
	SE	S78	35	31	42	21	26	35	17	14	35	24	23	42
		S79	40	31	42	21	18	35	17	16	35	24	23	35
	SW	S78	40	31	42	18	18	35	17	16	35	24	23	35
		S79	45	45	42	19	18	35	19	18	35	24	23	35
	EOC	S78							14	11	28	14	11	28
		S79							14	11	28	14	11	28
	Total DISD	S78	57	50	49	19	18	35	17	14	35	27	26	42
		S79	57	53	49	21	18	35	17	16	35	24	26	35
Grade 10	NW	S78	74	69	70	20	18	38	11	10	31	53	45	51
		S79	74	69	66	20	20	38	11	8	28	53	45	51
	NE	S78	68	64	62	23	25	38	15	16	31	51	43	45
		S79	71	64	62	34	31	38	20	20	38	51	43	51
	SE	S78	46	38	45	22	20	31	15	11	31	28	23	38
		S79	49	42	51	30	23	38	13	11	31	31	23	38
	SW	S78	51	43	45	23	20	31	15	16	31	28	23	38
		S79	57	50	51	23	23	35	18	16	31	31	25	38
	EOC	S78							13	10	31	13	10	31
		S79							11	10	31	11	10	31
	Total DISD	S78	65	59	57	23	20	38	13	11	31	33	28	38
		S79	67	61	62	28	25	38	15	11	31	33	33	38
Grade 11	NW	S78	71	68	69	16	19	35	10	9	28	49	46	52
		S79	75	68	75	22	26	35	11	9	28	56	48	57
	NE	S78	65	62	62	28	30	41	13	17	28	51	48	47
		S79	69	64	62	24	31	41	20	17	35	51	46	52
	SE	S78	40	32	41	18	17	32	11	12	28	24	21	35
		S79	48	42	47	24	28	35	15	14	28	28	26	35
	SW	S78	56	50	52	22	26	35	13	14	28	28	28	35
		S79	61	50	57	26	28	33	16	17	35	30	30	41
	EOC	S78							11	13	28	11	13	28
		S79							11	10	28	11	10	28
	Total DISD	S78	62	58	57	22	24	35	11	13	28	30	30	41
		S79	66	60	62	24	28	35	15	14	28	36	32	41

R = Reading, L = Language, M = Math

*Sixth-grade scores are estimated from tests administered in September, 1978.

Changes in grade-level percent of students at or above norm. Earlier we stated that we feel the best indication of the District's achievement is the percent of students who scored at or above the national, large-city 50th percentile. Our statements then apply here, also. Thus, in Table 10 we display the percentages of students, classified by ethnicity, grade level and subdistrict, who scored at or above norm on the reading, language, and mathematics subtests of the ITED. After examining this table we reached the following conclusions, all of which are in agreement with those reported above.

1. The percentages of White students at or above norm was greater in S79 than in S78, although not greatly so, on all subtests at all grade levels. This was universally the situation across all subdistricts, however. In the Southeast, at Grade 9, the percent of higher achieving White students showed a moderate decrease in mathematics from S78 to S79. In the Southwest, on the other hand, the percent of higher scoring Whites increased, on all subtests, more than usual.

2. Except in reading at Grade 11, the percentages of Hispanic students at or above norm did not change appreciably from S78 to S79. In the one exception there was an increase of 9 percent in the percentage of higher scoring Hispanic students. Across subdistricts, notable increases in above-norm Hispanic students were observed in the Northeast and Southwest in mathematics at Grade 10, in the Northeast in reading at Grade 11, and in the Southeast on all subtests at Grade 11.

3. Like the results for the other ethnic groups, the percentages of Black students at or above norm on all subtests in S79 were not much different than the percentages for S78. Moderate exceptions to this general finding were noted in the Northeast, where percentages increased in reading (Grades 9 and 10), language (Grade 9), and mathematics (Grade 10); the Southeast, where a greater than usual increase was observed in mathematics (Grade 10); and the Southwest, where reasonably large increases occurred in reading and language (Grade 10), and mathematics (Grades 10 and 11).

TABLE 10

Changes in Percent of Students At or Above Norm
over Years (ITED, Grades 9-11)

Grade	Sub-district	Year	White			Hispanic			Black			All		
			R	L	M	R	L	M	R	L	M	R	L	M
Grade 9	NW	S78	69	62	59	13	18	25	5	9	15	39	38	40
		S79	72	65	59	12	19	20	7	11	18	39	38	38
	NE	S78	64	60	53	23	27	29	10	17	18	41	42	38
		S79	62	58	55	25	27	27	17	23	21	40	41	39
	SE	S78	34	34	36	16	25	25	6	11	16	23	25	28
		S79	34	32	31	20	24	28	5	9	16	22	23	25
	SW	S78	39	36	37	12	17	19	9	14	15	20	22	24
		S79	45	44	41	15	18	20	9	17	15	22	26	24
	EOC	S78							8	12	14	8	12	14
		S79							5	11	14	5	11	14
	Total DISD	S78	55	51	48	15	20	24	8	13	15	26	26	29
		S79	56	53	49	17	21	22	9	15	16	25	24	28
Grade 10	NW	S78	80	72	72	22	25	29	8	11	19	52	49	52
		S79	80	71	72	25	30	29	12	15	18	52	49	50
	NE	S78	73	65	63	29	30	30	16	22	22	50	48	47
		S79	72	65	66	33	32	38	22	26	29	51	48	51
	SE	S78	45	41	47	20	23	21	11	10	19	31	28	35
		S79	49	45	52	25	34	29	9	12	24	32	32	40
	SW	S78	52	46	50	25	26	26	14	18	22	31	31	34
		S79	57	51	54	21	27	25	17	22	19	32	33	32
	EOC	S78							12	13	18	13	13	18
		S79							11	15	16	11	15	16
	Total DISD	S78	66	59	60	24	26	27	12	13	20	38	36	39
		S79	68	60	63	26	30	30	15	20	21	38	38	40
Grade 11	NW	S78	75	69	71	16	24	21	4	9	12	50	48	50
		S79	80	71	77	26	24	33	9	12	16	54	49	56
	NE	S78	69	62	64	29	36	38	15	21	19	50	48	50
		S79	71	64	66	36	34	35	17	22	23	51	48	50
	SE	S78	39	34	40	14	18	21	7	13	11	25	25	28
		S79	47	42	44	24	28	27	10	10	14	32	30	32
	SW	S78	56	52	50	19	27	26	11	15	14	32	33	32
		S79	59	51	56	24	30	25	18	21	23	36	35	37
	EOC	S78							11	14	14	11	14	14
		S79							9	11	11	9	11	11
	Total DISD	S78	63	57	60	19	27	26	10	14	14	37	37	38
		S79	67	60	64	28	29	30	13	16	17	40	38	40

Achievement Trends of Same Students Over Years (Cohort Longitudinal)

In this section we discuss the achievement growth of given cohorts of students over one and three years' time. A cohort was defined as a group of students for whom test scores were available on two occasions over years. Thus, for this report, given the availability of data, three cohorts were identified: a grade 9-11 cohort (measured at Grade 9 in fall 1976 and again at Grade 11 in spring 1979), a grade 9-10 cohort (measured at Grade 9 in spring 1978 and again at Grade 10 in spring 1979) and a Grade 10-11 cohort (measured at Grade 10 in spring 1978 and again at Grade 11 in spring 1979).

Comparison of growth rates with expected growth rates. By using the norms tables provided with the ITED, it was possible to compute the expected rate of growth for each of the classifications given in Table 11. The actual growth rates could then be compared to their expected growth rates. In Table 11 we see that White cohorts exceeded or equalled expected growth in all instances but one, that Hispanic cohorts exceeded or equalled expected growth in 29 or 36 instances, and that Black cohorts exceeded or equalled expected growth in 33 of 45 instances. The table further illustrates that White cohorts frequently finished above norm while minority cohorts did not.

Comparison of achievement of students retained vs. students lost or gained. Median percentiles for both cohorts and non-cohorts at Grades 9-11 are displayed in Table 12. Cohort students were identified as those for whom both pretest and posttest scores existed. Non-cohort students are those who could be identified as having been pretested or posttested

TABLE 11

Summary of Cohort Achievement Over Grades 9-12

		White			Black			Hispanic			All		
		R	L	M	R	L	M	R	L	M	R	L	M
NW	9-10	A+	A+	A+	C-	B-	B-	B-	B-	B-	A+	B	B
	9-11	A+	B+	A+	C-	C-	C-	B-	A-	A-	A+	B	A+
	10-11	B+	B+	B+	B-	B-	B-	C-	B-	C-	C+	B	B+
NE	9-10	A+	B+	A+	B-	B-	B-	B-	B-	C-	A+	B	B
	9-11	A+	A+	A+	B-	B-	B-	B-	A-	A-	A+	A	A
	10-11	B+	B+	B+	B-	B-	A-	C-	B-	B-	C	B	B
SE	9-10	A	A	B	B-	B-	C-	A-	B-	C-	B-	B-	B-
	9-11	A	B-	A-	B-	B-	B-	B-	B-	A-	B-	B-	B-
	10-11	B	B-	C-	B-	B-	B-	C-	B-	A-	B-	B-	C-
SW	9-10	A+	B	B	B-	B-	C-	B-	B-	B-	B-	B-	B-
	9-11	A+	B	A+	B-	B-	C-	B-	B-	B-	B-	B-	B-
	10-11	B+	B	B+	B-	B-	A-	B-	B-	C-	B-	B-	B-
EOC	9-10				C-	B-	C-				C-	B-	C-
	9-11				C-	C-	C-				C-	C-	C-
	10-11				B-	B-	B-				B-	B-	B-
DISD	9-10	A+	B+	A+	B-	B-	C-	B-	B-	B-	B-	B-	B-
	9-11	A+	A+	A+	B-	B-	C-	B-	B-	B-	A-	B-	B-
	10-11	B+	B+	A+	B-	B-	B-	B-	B-	C-	B-	B-	B-

TABLE 12

Median Percentile Scores of Cohorts and Non-cohorts

	Reading				Language				Mathematics			
	Cohort		Non-cohort		Cohort		Non-cohort		Cohort		Non-cohort	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Grade 9, Spring 1978 to Grade 10, Spring 1979												
NW	45	59	17	39	45	52	18	38	49	51	38	47
NE	45	55	21	36	48	50	26	35	49	51	28	45
SE	27	33	17	31	26	28	16	28	42	45	21	38
SW	27	33	17	31	26	28	16	23	35	38	23	38
ECC	17	33	8	11	14	11	11	10	35	31	17	24
Grade 10, Spring 1978 to Grade 11, Spring 1979												
NW	65	62	28	34	57	54	23	30	57	57	38	47
NE	57	53	33	44	52	48	25	38	51	52	38	41
SE	33	34	20	28	28	30	16	28	38	35	31	35
SW	34	34	23	29	33	32	18	25	38	41	31	41
ECC	13	11	11	10	11	13	8	7	31	28	31	27
Grade 9, Fall 1976 to Grade 11, Spring 1979												
NW	48	61	27	46	55	52	28	41	51	57	44	52
NE	43	53	24	40	42	50	22	34	44	52	37	41
SE	30	34	24	26	30	30	22	19	37	35	37	35
SW	32	36	24	24	33	34	20	19	44	41	37	41
ECC	17	11	17	10	17	13	15	7	29	28	37	21

but not both. The reasons explaining the presence of non-cohort students could be manifold; four are listed here: (1) after a student was pretested, he left the district before he was posttested, (2) a student was available for posttesting only, having recently entered the district, (3) a student was not in attendance at school for one of the testings, and (4) a student's identification codes were erroneous on at least one testing record so that his records could not be matched across time. For the sake of brevity, reasons (1) and (2) will be used to describe all cases in the discussion below.

1. Of the 45 possible pretest comparisons, cohort students outperformed non-cohort students, on the average, in 42 (93%) instances. This implies that students retained by the District were higher achievers than those who left the District.

2. When considering the posttest performances, we find that cohort students, on the average, outperformed their non-cohort counterparts in 39 out of 45 (87%) comparisons. Thus, retained students could be said to have been better achievers than those who were new (gained) to the District.

Follow-up of the Class of 1978

This past year we attempted to survey (by telephone) all graduate members of the Class of 1978. We were successful in reaching 85 percent of them. The survey was brief; it merely inquired into the academic and vocational pursuits of the graduates.

A fairly complete summary of the results of this survey is provided in Table 13 and discussed below:

1. The majority (54.5%) of respondents were attending school at the time the survey was conducted. Of those attending school 71.0% were attending college full-time. A higher percentage of respondents were enrolled in a four-year college (51.9%) than in

TABLE 13

VOCATIONAL AND EDUCATIONAL PURSUITS OF 1978 GRADUATES

TOTAL DISTRICT NUMBER OF GRADUATES = 7503

	TOTAL	MALE	FEMALE	BLACK	HISPAN	OTHER
ATTENDING SCHOOL (FULL OR PART TIME)						
NUMBER OF RESPONDENTS	6374	3079	3295	2494	474	3406
TOTAL ATTENDING SCHOOL	3476	1622	1854	1206	191	2079
	(54.5%)	(52.7%)	(56.3%)	(48.4%)	(40.3%)	(61.0%
COLLEGE FULL TIME	2467	1162	1305	818	104	1545
	(38.7%)	(37.7%)	(39.6%)	(32.8%)	(21.9%)	(45.4%
FOUR-YEAR COLLEGE	1596	750	846	475	49	1072
	(25.0%)	(24.4%)	(25.7%)	(19.0%)	(10.3%)	(31.5%
FOUR-YEAR COLLEGE AND WORKING	61	29	32	17	4	40
	(1.0%)	(0.9%)	(1.0%)	(0.7%)	(0.8%)	(1.2%
JUNIOR COLLEGE	627	300	327	276	40	311
	(9.8%)	(9.7%)	(9.9%)	(11.1%)	(8.4%)	(9.1%
JUNIOR COLLEGE AND WORKING	183	83	100	50	11	122
	(2.9%)	(2.7%)	(3.0%)	(2.0%)	(2.3%)	(3.6%
COLLEGE PART TIME	786	358	428	258	60	468
	(12.3%)	(11.6%)	(13.0%)	(10.3%)	(12.7%)	(13.7%
FOUR-YEAR COLLEGE	118	49	69	42	3	73
	(1.9%)	(1.6%)	(2.1%)	(1.7%)	(0.6%)	(2.1%
FOUR-YEAR COLLEGE AND WORKING	29	9	20	13	2	14
	(0.5%)	(0.3%)	(0.6%)	(0.5%)	(0.4%)	(0.4%
JUNIOR COLLEGE	266	123	143	83	25	158
	(4.2%)	(4.0%)	(4.3%)	(3.3%)	(5.3%)	(4.6%
JUNIOR COLLEGE AND WORKING	373	177	196	120	30	223
	(5.9%)	(5.7%)	(5.9%)	(4.8%)	(6.3%)	(6.5%
BUSINESS OR TECHNICAL SCHOOL	223	102	121	130	27	66
	(3.5%)	(3.3%)	(3.7%)	(5.2%)	(5.7%)	(1.9%
EMPLOYED (AND NOT ATTENDING SCHOOL)						
TOTAL EMPLOYED	2555	1373	1182	1077	249	1229
	(40.1%)	(44.6%)	(35.9%)	(43.2%)	(52.5%)	(36.1%
EMPLOYED FULL TIME	2120	1093	1027	838	205	1077
	(33.3%)	(35.5%)	(31.2%)	(33.6%)	(43.2%)	(31.6%
EMPLOYED PART TIME	238	104	134	124	21	93
	(3.7%)	(3.4%)	(4.1%)	(5.0%)	(4.4%)	(2.7%
MILITARY SERVICE	197	176	21	115	23	59
	(3.1%)	(5.7%)	(0.6%)	(4.6%)	(4.9%)	(1.7%
FULL-TIME HOMEMAKER	109	1	108	51	11	47
	(1.7%)	(0.0%)	(3.3%)	(2.0%)	(2.3%)	(1.4%
UNEMPLOYED	234	83	151	160	23	51
	(3.7%)	(2.7%)	(4.6%)	(6.4%)	(4.9%)	(1.5%
UNABLE TO CONTACT	1129	503	626	568	144	417
(PERCENTAGE OF GRADUATES)	(15.0%)	(14.0%)	(16.0%)	(18.5%)	(23.3%)	(10.9%

a junior college (41.7%). Subdistrict comparisons revealed that the Northwest Subdistrict had the highest percentage (68.5%) of the respondents attending school, while the Seagoville Subdistrict had the lowest percentage (22.7%).

2. Approximately forty percent of the respondents stated they were employed and not attending school. The majority (83.0%) of these respondents were employed full-time. A small percentage (3.7%) of the respondents were unemployed at the time the survey was conducted.

   The Seagoville Subdistrict had the largest percentage (65.6%) of employed respondents; the Northwest Subdistrict had the smallest percentage (28.5%). The unemployment rate was the highest (9.0%) in the East Oak Cliff Subdistrict and the lowest (1.8%) in the Northwest Subdistrict.

3. A slightly higher percentage of female respondents (56.3%) were attending school than male respondents (52.7%), whereas more male respondents were employed (44.6%) than female respondents (35.9%). Unemployment was higher among female respondents (4.6%) than among male respondents (2.7%).

   A comparison of post-graduate activities among ethnic groups revealed that Hispanic respondents were least likely to be attending school, most likely to be employed and had an unemployment rate of 4.9%. Blacks were more likely than Hispanics to be attending school and were less likely to be employed. They had the highest unemployment rate (6.4%) of the three ethnic groups. In comparison with Hispanics and Blacks, other respondents were more likely to be in school, less likely to be employed and had the lowest unemployment rate.

Summary

After considering all the data presented above we arrived at the following conclusions regarding the system-wide achievement data at Grades 9-12.

1. District-wide achievement in Grades 9-11 for 1979 was generally stable to up. While White students remained at or above norm on the average, minority achievement, though showing improvements, remained low. It is important to note that the Iowa Tests of Educational Development would tend to be insensitive to gains or losses of many of the District's lower scoring students because of chance score problems.

2. For the most part students in all ethnic grade level classifications performed at a level equal to or greater than expectation based upon their previous year's achievement levels, on the ITED.

3. This past year marked the first time in which the BOAT test, eventually slated as a requirement for graduation, was administered system-wide to all students in Grades 9-12. We saw that the percent of students passing at least 70 percent of the items jumped considerably from Grade 9 to Grade 10, whereafter the increases were gradual. Among twelfth graders approximately 80 percent of the students had correctly answered at least 70 percent of the BOAT items.

4. It is a fairly well established fact that the District's student population changes dramatically over relatively short periods of time. However, we presented some evidence to suggest that those high school students who remained in the District were better achievers than those who either left prior to graduation or entered the District late in their school career.

5. The results of a graduate follow-up study conducted this past year showed that a majority of the District's graduates continue to pursue formal education (either full or part time) following graduation. Another large percent of the District's graduates were successful in finding full time employment.

An Interpretative Analysis of the Teacher Selection and Evaluation Processes, 1978-79

Wallace H. Carter, III

The school year 1978-79 saw the continuing unfoldment of two simultaneous processes each supplementing the other in a general plan to upgrade the quality of classroom instruction. One process was the major revision of procedures to evaluate teachers, the other involved the application of new selection methods to insure hiring teachers who would be, presumably, competent as instructors. Both processes, under the stewardship of the Personnel Department, underwent modifications concurrent with implementation. The implied educational link between these twin processes is greater student achievement, and this connecting point is at the root of much of the controversy surrounding them. On one hand, in the midst of growing nationwide indignation over alleged poor public education, local citizenry are encouraging educational accountability, particularly for classroom teachers. On the other hand, with increasing evidence demonstrating the preponderating share that nonteacher effects have on student achievement, teachers are justifiably arguing against the position that teacher accountability is the main solution to the problem. The posture taken by the Personnel Department was a reconciliation of these opposing viewpoints --- it was considered reasonable to expect that teachers have some influence on student achievement. The extent of this influence was assumed to be relatively small. The degree of emphasis placed on student achievement in teacher evaluation and on objective assessment in teacher selection was, therefore, also small but important.

The purpose of this paper is to review the validities of these personnel programs in terms of their influences on instructional processes and on student achievement in particular.

Teacher Selection

The Personnel Department continues to include eleven criteria when selecting teachers. These criteria are:

1. Analysis of Application
2. Certification
3. Transcripts
4. Testing
5. Personnel Department Questionnaire
6. Interview
7. Evaluation by Principal
8. Cooperating Teacher Evaluation
9. College Supervisor Evaluation
10. Personal and Professional References
11. Screening Committee

A series of studies will eventually establish the relative merits of each of these criteria. Two of the criteria ("testing" and "interview") were investigated for purposes of validation. This section of the paper reviews the results of that validity study.

The most recent modification in the screening of teacher applicants has been the addition of the Wesman Personnel Classification Test (PCT) and the essay test to the testing phase. The National Teacher Examinations requirement was consequently removed. Since its introduction into the District, the PCT has drawn much attention and many allegations based on inappropriate inferences about its power to predict teacher compentency have been made. A comprehensive study was designed to determine the relationships among scores on the new tests, ratings of teacher instructional behaviors, and student gain scores on achievement tests. One of the purposes of this study was to see if the moderate relationship found between PCT scores and a transformed composite student rating used last year would hold up amidst more direct variables of quality of instruction and student achievement. The study required extensive data collection that included student ratings of teachers by over 2,700 middle and senior high school students; 1,520 observations of teachers by five trained observers; and pre- and post-achievement test scores (ITBS or ITED) from data base records for over 5,700 students. Classroom averages were computed for all ratings and achievement data. Though this mass of information was anticipated, it was understood at the outset that even the highest indicator of association between any of the teacher variables and student scores on standardized achievement tests would tend to be very small. In a few cases, there were some unexpected results.

Selection Variables and Student Gains in Achievement

The overall relationship between the PCT, interview, and essay scores and elementary student achievement gains was slight. Table 1 presents the correlations between these two sets of variables.

Table 1

Correlations between Teacher Scores on Selection Variables
and ITBS Residual Average Classroom Gain
Scores for Elementary School Students

		Selection Variables				
ITBS Subtest	(N)	PCT Verbal	PCT Math	PCT Total	Interview	Essays
Vocabulary	(37)	.16	.20	.19	.13	-.10[a]
Reading Total	(37)	.11	.03	.09	.15	-.26[a]
Spelling	(37)	-.16	.05	.13	.08	-.19[a]
Math Concepts	(32)	-.17	.00	.12	.38*	.09[b]
Math Problem Solving	(32)	.14	.13	.15	.31*	.18[b]
Math Total	(32)	-.02	.09	.02	.37*	.12[b]

[a] N = 18
[b] N = 17
*p <.05 level of significance

The only significant relationship to appear was between interview scores and residual gain scores on ITBS math subtests. Residual gain scores are posttest scores wherein original variations in pretest scores have been removed. This approach is a statistical procedure which controls for the original achievement level inequality among students. The interview scores account for about 14% of the variance in the residual gain scores on the Math Concepts subtest. The relationships between essay scores and Language Arts subtest scores were not even close to approaching significance and should not be regarded, therefore, as establishing a trend.

The results from middle school data analyses were more substantial. Table 2 presents rank correlations between teacher selection variables and gain scores (not residuals) on ITBS subtests.

Table 2

Rank Correlations between Teacher Scores on Selection Variables and Gain Scores on ITBS Subtests for Middle School Students

		Selection Variable			
ITBS Subtests	(N)	PCT Verbal	PCT Math	PCT Total	Interview
Reading Total	(7)	-.34	-.07	-.14	-.21
Math Concepts	(10)	.84**	.58*	.78**	.38
Math Problem Solving	(10)	.37	.41	.45	.18
Math Total	(10)	.55*	.55*	.61*	.43

*$p < .05$ level of significance
**$p < .01$ level of significance

Most noteworthy of these results was the higher degree of relationship the PCT-Verbal score had with gain scores on the ITBS Math Concepts subtest than the PCT-Math score had. The other interesting result here was that the PCT-Total score contributed more to the prediction of subsequent student gain scores on the ITBS Math Total than either PCT-Verbal or PCT-Math scores contributed separately.

The negative correlation between PCT-Verbal and Reading Total was not significant, but large enough to be somewhat surprising. The small sample size for each of these correlations[1] permits only untenable conclusions to be drawn from these data.

The senior high school results were also interesting. Table 3 presents rank correlations between selection variables and ITED gain scores (not residuals) for senior high school students.

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[1] The problem of small sample size can best be understood when one computes the expected correlation between variables if just a sample of subjects were randomly selected and given chance scores. With 10 subjects and two variables, for example, the expected correlation by chance alone would be $= \sqrt{(K-1)/(N-1)} = \sqrt{1/9} = \underline{.33}$ where K is the number of variables and N is the number of subjects.

Table 3

Rank Correlations between Teacher Scores on Selection Variables and Gain Scores on ITED Subtests for Senior High School Students

ITED Subtests	(N)	PCT Verbal	PCT Math	PCT Total	Interview	Essays
		Selection Variables				
Reading Comprehension	(11)	.46	.36	.36	.31	.01[a]
Vocabulary	(11)	.48	.45	.43	.29	-.30[a]
Reading Total	(11)	.57*	.44	.47	.40	.04[a]
Language Arts-Usage	(11)	.51	.61*	.46	.09	-.42[a]
Language Arts-Spelling	(11)	.16	.54*	.30	-.16	-.13[a]
Language Arts-Total	(11)	.40	.67*	.40	.00	-.35[a]
Math	(5)	-.10	.46	.10	-.15	-.56[b]
Social Studies	(5)	.87*	.46	.70	.56	---#
Science	(9)	.54	.64*	.70*	.08	.87[c]

[a] N=8
[b] N=5
[c] N=3
*$p < .05$ level of significance
**$p < .01$ level of significance
#there were no new Social Studies teachers in the sample.

A subtle reversal took place. Whereas PCT-Verbal was the main contributor to the prediction of gain scores on a math subtest for middle school students, it was PCT-Math that was the best predictor of gain scores on Language Arts subtests for senior high school students. Other significant relationships were between PCT-Verbal and ITED Reading Total (a reverse relationship from that encountered between the same variables at the middle school level), PCT-Verbal and ITED Social Studies, and between each set of PCT-Math and PCT-Total scores and ITED Science gain scores.

Overall, the relationships between teacher selection variables and student gains in achievement were not impressive. At the same time, almost four times as many significant results occurred as would be expected were chance operating alone.

Selection Variables and Instructional Behaviors

Ratings of teachers by professional observers and by students were used as measures of the quality of instruction. The rating scales were composed of items that described various kinds of instructional behavior. The items were grouped into nine categories or clusters for the observation rating scales and into eight categories for the student rating scale. The item categories for the observation scales, with an item example for each, were as follows:

Category	Item Example
1. Personable Leadership	"...shows confidence in teaching"
2. Elaboration - Integration Instruction	"...uses examples when explaining material"
3. Stimulation of Interest	"...asks the students stimulating questions"
4. Mnemonic - Differentiation Instruction	"...goes through a method step by step when teaching the method to students"
5. Student Oriented Integrity/ Rapport	"...is understanding"
6. Application - Generalization Instruction	"...relates what is being studied to real life situations"
7. Information Delivery	"...presents information in a logical sequence"
8. Clarity	"...uses correct Standard English"
9. Individual Student Orientation	"...individualizes instruction (diagnostic/prescriptive approach with individual students)"

The Personable Leadership and Individual Student Orientation categories were deleted from the student rating scale and the category, Feedback to Students, was added.

There were mixed results regarding the relationships between selection variables and instructional behaviors. No significant relationships pertaining to overall ratings were found. Yet, there were some significant findings when associations between category scores on the observation scales and selection scores were investigated. Table 4 presents these results.

Table 4

Correlations between Certain Observation Cluster Scores and Selection Variables for Elementary and Secondary Teachers

Selection Variable	(N)	Observation Clusters[a] 1	2	3	4	5	6
Elementary							
PCT-Verbal	(57)	-.01	.01	-.02	-.08	-.00	.32**
PCT-Math	(57)	-.00	.05	-.00	-.04	-.04	.23*
PCT-Total	(57)	-.01	.03	-.01	-.08	-.02	.33**
Interview	(57)	.14	.05	.12	.00	.06	.07
Essays[b]	(20)	-.23	-.30	-.06	.25	-.25	.08
Secondary							
PCT-Verbal	(50)	.24*	.19	.26*	.09	.21	.45***
PCT-Math	(50)	.40**	.33**	.23	.06	.26*	.34**
PCT-Total	(50)	.34**	.27*	.27*	.08	.25*	.44***
Interview	(50)	.08	.21	.27*	.25*	.22	.18
Essays[b]	(21)	-.04	-.13	-.00	-.00	-.03	.24

[a] 1 - Elaboration-Integration, 2 - Mnemonic-Differentiation, 3 - Integrity/Rapport, 4 - Application-Generalization, 5 - Information Delivery, 6 - Clarity

[b] Rank Correlations used with this variable

*$p < .05$ level of significance

**$p < .01$ level of significance

***$p < .001$ level of significance

The Clarity variable showed consistently significant correlations with the set of PCT scores at both elementary and secondary school levels. The PCT-Verbal/Clarity relationship was highly significant for secondary teachers. Apparently, the PCT scores had some power in predicting a teacher's clarity of speech and use of correct Standard English (the two items comprising this category). At the elementary school level, the predictive power of PCT scores was spent in that category since no other significant or even near significant results occurred regarding other elementary teacher behavior ratings.

PCT predictive power, though reduced, still remained for other categories of behavior at the secondary level. Most notable was the relationship between PCT-Math scores and the Elaboration - Integration instructional behavior rating.

The interview score shared some significant association with Student Oriented Integrity/Rapport and with Application-Generalization. It is interesting to note that the PCT, a pencil and paper test, had as much of a contribution to predicting teachers' rapport with students as did the interview, a person-to-person process.

When all categories were simultaneously entered into the analysis with PCT scores, the result was a very strong relationship between two of the sets of variables for secondary school teachers. Over 57% of the total variation between PCT-Total scores and the observation combined category ratings was shared by these two sets of scores.

Instructional Behaviors and Student Gains in Achievement

The number of significant correlations between instructional behavior variables and student gains in achievement were the same as or lower than what would be expected by chance. Generally, then, there was no relationship between these two sets of variables. Apparently, the way in which selection and achievement gain scores associated with one another was independent of the association between selection and quality of instruction scores. This result points out the mislogic of the often held presumption that if A and B correlate, and if B and C correlate, then A and C correlate.

Interpretation

The scores on the Wesman Personnel Classification Test seem to have some predictive validity with instructional performance in terms of both quality of instruction and student gains in achievement. Overall, however, the validity is not substantial enough to warrant the exclusive or even major use of PCT scores as predictors of teaching effectiveness. The present use of the PCT by the Personnel Department seems compatible with these results in light of the fact that these test scores are a small subset in the set of selection criteria.

Relatively, the PCT scores were more powerful predictors than were interview scores, but not for all pertinent outcomes. Interview scores seemed to have a stronger relationship with quality of instruction variables and student achievement gain scores at the elementary level than the PCT or the essay test had with those same variables. This result could be due to a variety of reasons, for example: The overall impression an elementary teacher gives may have influenced the interviewers and the observers in the same way; the observation rating scale for elementary teachers contained more affective items than its secondary level counterpart included; elementary school achievement may have been more sensitive to personal interaction between teacher and student than to purely instructional interaction; finally, the myriad of programs, situations, and materials impacting elementary schools may have introduced more variation among elementary classrooms to the extent that overall teacher academic ability effects were washed out.

Teacher Evaluation

In August, 1976, the Teacher Evaluation Pilot Program (TEPP) was initiated in 17 schools in DISD as a procedure for appraising teacher competency. Due to gradual expansion of the program 29 schools were involved in TEPP during the 1978-79 school year.

Under the guidelines for TEPP, an evaluation team is responsible for assisting each instructor both in establishing his/her individual instructional goals and in achieving them. Success in attainment of the objectives is regarded by TEPP as the benchmark by which the teacher's proficiency as an educator may be measured.

The objectivity of TEPP is a feature which made it more attractive to the District than other methods of teacher assessment. Moreover, its straightforward thrust into the area of classroom instructional effectiveness seemed to blend well with other efforts to upgrade student performance. For instance, TEPP is a natural companion of the Texas Education Agency (TEA) accreditation program, instituted during the 1978-79 school year, which focuses on improvement of student outcomes at the District and school levels.

Since TEPP was first implemented, the difficulties of adjusting to a new program have been slowly resolved. Teachers with the most years of experience in TEPP indicated better success in executing each of TEPP's provisions.

Attitudes of teachers toward TEPP have changed as well. Each year of involvement with the program seemed to bring to the teachers a clearer understanding of its features. Though the teachers indicated a slight decline in TEPP's contribution to instructional improvement and to the educational climate in the District, the majority of them still felt the program was beneficial in these two regards.

The attitudes of teachers toward the importance of some program features were related to the length of their involvement in the program. For instance, teachers with the most experience in TEPP attached less importance to the presence of fellow teachers on the evaluation team. They also felt that meeting with the evaluation team before the end of the first six weeks was less important.

A suggestion regarding expansion of the program into all secondary schools but no additional elementary schools was met with favor by 65% of the responding teachers. Of the teachers who indicated that they were not in favor of the suggestion, approximately half indicated that they actually preferred greater expansion.

The comments expressed by more than ten teachers were as follows:

1. The program is not worthwhile, is irrelevant, duplicates baseline objectives too much, wastes money, causes too much paperwork, takes too much time away from teaching, is ineffective, and/or is not effective enough. (N = 95)

2. The program should be well implemented in the elementary schools so that achievement of the basics can be enhanced. (N = 43)

3. This is a good program because: (a) It provides for more teacher input and involvement; (b) it helps determine a teacher's strengths and weaknesses; (c) it helps sharpen awareness of student needs; (d) it will serve the needs of the community because of exchange of ideas and teaching methods among different age groups; (e) the goals are helpful as guidelines; (f) it can be instrumental in strengthening teacher competency and/or student achievement; and/or (g) it is one of the most potentially effective procedures ever devised. (N = 32)

4. Good implementation is crucial to the success of the program: (a) Involved personnel must have comprehensive instruction in all aspects of the program; (b) goals must be clear, very specific and rigidly adhered to; (c) evaluators must be well informed about classroom procedure, curriculum content, and observation; and/or (d) program must be closely monitored (including an examination of the principal's and/or the team's execution of its responsibilities, and/or the teacher's recordkeeping). (N = 19)

5. Accountability should be extended to include pupils, parents, teachers, principals, administrators, and/or other personnel. (N = 17)

6. There are too many unmeasured independent variables (social problems, student apathy) and/or dependent variables (learning of life skills, positive attitude toward learning, as well as academic skills) for this to be a valid method of teacher evaluation. (N = 11)

7. Evaluation should not be made by fellow teachers. (N = 11)

The progress of the TEPP program was examined through comparisons of student achievement changes in TEPP and non-TEPP schools. Table 5 contrasts the achievement gains for TEPP and control schools.

Table 5

Gains in Percentages of Students Scoring above
the National Median on Standardized Achievement Tests
for TEPP and Control Schools
(by Subtest Area and School Level)

	Subtests			
	Reading		Mathematics	
School Level	TEPP	Control	TEPP	Control
Elementary	-2.0	-1.3	7.2	5.3
Middle	0.4	-0.2	2.5	2.8
Senior High	3.4	2.0	2.7	2.9

The results were inconsistent. For instance, at the middle and senior high levels, TEPP schools had higher reading achievement gains and lower mathematics gains than did control schools. The results were reversed at the elementary level. It must be noted, however, that there was no instance in which the gains of TEPP and control schools differed by more than two percentage points.

Table 6 presents achievement gains of schools with varying years of participation in TEPP.

6

Table 6

Gains in Percentages of Students Scoring above the National Median on Standardized Achievement Tests for TEPP Schools (by Subtest Area, School Level, and Year of Participation)

	Subtests					
	Reading			Mathematics		
School Level	First Year	Second Year	Third Year	First Year	Second Year	Third Year
Elementary	-1.8	-- *	-2.3	5.2	-- *	9.0
Middle	0.0	2.5	0.3	3.6	2.7	0.9
Senior High	3.5	5.3	1.4	2.8	2.5	2.9

*There were no elementary schools in the second year of participation.

Results were erratic across years of participation, but discrepancies were narrow. The largest improvement in gains across years was a modest 3.8 percentage points on the elementary school mathematics subtest. These findings regarding student achievement are inconclusive in light of the fact that there are a diversity of unknown and unmeasured influences on achievement gains in every school.

Interpretation

The general attitudes of teachers toward TEPP were positive since they overwhelmingly supported program expansion. Their misgivings about the program's efficiency as reflected in their comments may have resulted from inconsistency of implementation within the various schools. In particular, there were differences in the kinds of objectives set by teachers. It would not be equitable for one set of teachers to be evaluated on the basis of process goal attainment and the other set on the basis of student achievement gains. This issue regarding the type of objectives (instructional process or student achievement) should be resolved.

Summary

For the selection phase in teacher improvement efforts, the results of the validity study confirmed the position of the Personnel Department. The Wesman Personnel Classification Test had some predictive validity in terms of student achievement at the secondary school level and of quality of instruction at all levels. It also appears that PCT scores were more related to secondary school instruction than to instruction at the elementary level. The degree of importance given PCT scores relative to other selection criteria was commensurate with the degree of relationship they had with process and outcome measures used in this study.

In the evaluation phase, the assumed relationship between the implementation of the Teacher Evaluation Pilot Program and student achievement was not confirmed. However, the majority of teachers participating in the program had indicated that TEPP contributed to instructional improvement. It was pointed out that the problem of inconsistencies in types of objectives set across schools should be resolved.

RE79-805-61-05

An Interpretative Analysis of the 1978-79 Accreditation Process

Deberie Gomez Adkins

Each legally constituted public school district in Texas must be accredited by the Texas Education Agency (TEA) in order to receive support from the Foundation School Fund. Accreditation encompasses the district as a whole and is based on evidencing satisfactory overall compliance with the ten Principles and Standards set forth by TEA.

Accreditation cycles are five school years in duration. Accreditation is maintained through two kinds of continuous performance throughout each five-year cycle: (1) maintaining satisfactory status with respect to Principles and Standards and (2) improvement as measured by success in producing targeted advancements in student learning achievement as compared to the status at the beginning or the district's cycle. The targeted advancements in student learning achievement are slected by the district upon completion of a comprehensive district-wide needs assessment. Failure of a district to discharge its obligations during a five-year cycle can result in modification or revocation of the district's accreditation.

Evaluation of student achievement and the district's procedural performance is carried out by the district and/or by TEA using as a reference the Principles, Standards, and Procedures for Accreditation of Schools. The evaluation process consists of (1) securing information, objective and subjective, which measures performance and results, (2) comparing these measurements with the Principles and Standards, and (3) judging the degree of adequacy reflected by this comparison. The district is charged with the principle responsibility for the evaluation. Using the evaluative information and the evaluative judgments made by the district, TEA arrives at its final decision with respect to the district's accreditation status.

The information contained in this interpretative analysis highlights the evaluative information and the results of the internal monitoring process which have been or will be submitted to the Texas Education Agency Division of School Accreditation (Adkins & Alexander, AA79-105-31-05, AA79-106-31-05; Alexander & Lamb, AA79-104-51-05, AA79-104-52-05, AA79-104-31-05). In addition, there is information relative to the Southern Association Accreditation process which is a voluntary option on the part of the DISD and is not a substitute for TEA accreditation (Adkins & Alexander, AA79-105-31-05).

Principle 4: The Five-Year Priorities Plan for Texas Education Agency Accreditation (TEA)

The Dallas Independent School District entered the accreditation cycle through the Pilot Accreditation Process, 1975-76 which had been initiated by the Texas Education Agency. The basic purpose of this approach to accreditation was to assure true quality in student learning and in performance of school districts by encouraging school districts to identify intended student learning achievement goals and to implement educational improvement processes which would produce a measurable degree of goal attainment. This process was intended to serve as the primary criterion for accreditation of the district.

In order to implement the Pilot Accreditation Process, the DISD was instructed to complete the following four phases of activity:

Phase I - Adopt a set of goals and goal indicators based on TEA goals and the Goals for Public School Education.

Phase II - Complete a self-study (needs assessment) based on the adopted goals.

Phase III - Use the needs assessment information as the basis for prioritizing the goals and developing a five-year plan to improve education in DISD schools.

Phase IV - Implement the five-year plan and show evidence of the effects (to continue from 1978 through 1983).

The first three phases were completed by February 22, 1978 (for more information see Grobe, IE78-071-62-09, IE78-071-61-09). In the interim period of time, the Pilot Accreditation Process had become State Board of Education Policy (August, 1977) and thus became a mandatory process for all Texas school districts.

The Five-Year Priorities Plan for TEA Accreditation, which was adopted by the DISD Board of Education in Phase III, focuses on a limited number of high priority areas which need improvement across the DISD. The eight priority goals are as follows:

Goal 1. Functional Literacy - Students should be able to master certain essential, basic skills and knowledge and attain a level of minimal competency. This goal was stated somewhat globally so that it includes a number of related school improvement goals concerning mathematics (i.e., Basic Skills), reading (i.e., Basic Skills), science/health (i.e., Personal Environment and Personal Safety Practices), and citizenship (i.e., Consumerism and Citizenship).

Goal 2. Mathematics -- Elementary (K-6) and Middle School (7-8) - Students should have knowledge of the basic skills (such as reading, writing, and arithmetic) in the early elementary grades along with more advanced courses in the upper grades.

Goal 3. Mathematics -- Secondary (9-12) - Students should have knowledge of the basic skills (such as reading, writing, and arithmetic) in the early elementary grades along with more advanced courses in the upper grades.

Goal 4. Reading K-12 - Students should have knowledge of the basic skills (such as reading, writing, and arithmetic) in the early grades along with more advanced courses in the upper grades.

Goal 5. Basic Language Arts Skills - Students should have knowledge of the basic skills (such as reading, writing, and arithmetic) in the early grades along with more advanced courses in the upper grades.

Goal 6. Science — Organizing and Generalizing from Data - Students should be able to recognize and help to minimize (a) environment problems which threaten health, livelihood or emotional well being and (b) physical and mental health problems and the factors contributing to them.

Goal 7. Science -- Problem-Solving Techniques - Students should be able to recognize and help to minimize (a) environment problems which threaten health, livelihood or emotional well being and (b) physical and mental health problems and the factors contributing to them.

Goal 8. Social Studies -- Citizenship - Students should know about (a) their rights and duties as a citizen, (b) politics in this country, and (c) how our government compares to other governments.

Each of the goals has accompanying goal indicators expressing more specifically how students' will demonstrate improvement in the goal area. Improvement in student learning achievement in the priority areas must take place in the form of individual contributions at the school level. For this reason, implementation of the Five-Year Plan (Phase IV) is largely the responsibility of building administrators and their faculties with support being drawn from central staff departments.

In June, 1978, building administrators were given a School Planning and Accountability notebook which contained the District's goals and goal indicators as well as the District's objectives for the first year of the five-year cycle. Instructions and data were provided to enable the schools to complete a local needs assessment in order to ascertain where they stood relative to the District in the priority areas. In addition, the notebook included sample formats for schools to use in establishing local objectives which would support the District's objectives and in developing the strategies and procedures which the school would employ to produce the specified student learning outcomes.

Technical assistance was provided by the Department of Research, Evaluation, and Information Systems and by central staff administrators. Each school was required to submit a complete plan for year one by October 1, 1978. The Department of Research, Evaluation, and Information Systems received all plans submitted. During the Spring, 1979, site visits were conducted to determine the extent to which a sample of schools had implemented their plans.

Evaluation Results

1. One hundred seventy-seven (177) school improvement plans were submitted. Table 1 presents the status of those plans by school levels.

Table 1

Status of School Plans by School Level

	Very Good		O.K. But See Notes		Needs to be Reconsidered		Needs Help		Total
	No.	%	No.	%	No.	%	No.	%	No. Plans
Elementary	5	3.7	39	29.1	63	47.0	27	20.2	134
Middle Schools	0	0	8	38.1	11	52.4	2	9.5	21
High Schools	4	18.2	7	31.8	7	31.8	4	18.2	22
Total	9	5.1	54	30.5	81	45.8	33	18.6	177

Throughout the rest of this text, the word "adequate" will refer to plans in the "Very Good" and "O.K. But See Notes" categories. The category, "Needs to be Reconsidered" means that the schools could probably adjust the plan based on the written feedback. "Needs Help" implies that outside technical assistance is warranted. Table 2 presents the status of plans by subdistrict.

Table 2

Status of School Plans by Subdistrict

	Very Good		O.K. But See Notes		Needs to be Reconsidered		Needs Help		Total
	No.	%	No.	%	No.	%	No.	%	No. Plans
Northwest	3	6.3	17	35.4	19	39.6	9	18.7	48
Northeast	2	5.6	10	27.8	22	61.1	2	5.5	36
Southeast	2	6.9	13	44.9	11	37.9	3	10.3	29
East Oak Cliff	1	3.7	9	33.3	14	51.9	3	11.1	27
Southwest	1	2.7	5	13.5	15	40.6	16	43.2	37
Total District	9	5.1	54	30.5	81	45.8	33	18.6	177

Critiques for all plans were returned to area learning administrators. The schools were contacted by these individuals and modification was requested where the plans were unsatisfactory (Needs To Be Reconsidered or Needs Help).

2. Channels of communication between central administration and local schools regarding the implementation process were informal. A limited number of central staff members had extensive enough knowledge of the expectations, procedures, and requirements to provide one-to-one assistance to school personnel.

3. Of the 63 schools whose plans were judged to be in an adequate category, 50 were selected for a site visit. Table 3 presents the schools visited by school level and by subdistrict.

Table 3

Schools Monitored for Implementation of School Improvement Plan

Subdistrict	Elementary Schools		Middle Schools	High Schools	Total
Northwest	Allen Caillet Walnut Hill *Arlington Park Dealey Gooch *Hotchkiss	*Houston Kramer +Longfellow Maple Lawn +Marcus +Pershing +Withers	Cary	T. Jefferson	16
Northeast	Hassell +Gill +Hexter Mt.Auburn	+Reilly Silberstein Truett	+Gaston Hill *Long	*Bryan Adams	11

Table 3 (Continued)

Southeast	Central +Burleson +Anderson Rylie	+Moseley Macon Hawthorne +Titche	+Comstock +Florence	+Grady Spruce *Lincoln	12
E. Oak Cliff	Marshall Patton *Jackson Marsalis	Miller Oliver Young		A. M. Smith	8
Southwest	Hogg U. Lee			Kimball	3
Total	38		6	6	50

*Management System with Documentation +Documentation of Planned Action

The 22 schools marked asterisk (*) or plus (+) in Table 3 presented visible evidence that their plans were being implemented. Of these 22, 7 schools maintained a systematic internal plan for monitoring their own implementation process. In the other 15 schools, documentation of planned activities was available, but there was no systematic internal monitoring process.

4. The District exceeded the 1978-79 achievement objectives in reading and in mathematics at grade levels one through eight and in language arts at grade levels one through twelve. These objectives were stated in terms of a two percent increase in the

overall percentage of students scoring at or above the 50th percentile on the appropriate subtests of the Iowa Test of Basic Skills (Grades 1-8) and the Iowa Test of Educational Development (Grades 9-12). Table 4 presents 1977-78 test data, the District's two percent objective, and the resulting 1978-79 test data.

Table 4

Percentage of Students Scoring At or Above
the 50th Percentile using Large City Norms

Subtest	Grade Levels	1977-78 Test Data	Objective for 1978-79	1978-79 Test Data
Reading	1-8	32%	34%	38%
Mathematics	1-8	26%	28%	34%
Language Arts	1-12	30%	32%	39%

5. The District did not reach the achievement objective for reading in grades nine through twelve. The objective was to have all remedial students in the State Compensatory Secondary Reading Program make an average gain of four tenths of one month for each month of instruction. Test results showed that 52% of the ninth grade participants made average gains less than the four tenths of one month. Similarly, 49.7% of the tenth grade participants, 50.8% of the eleventh grade participants, and 58.3% of the twelfth grade participants made less than four tenths of one month gain for each month of instruction (Lym, T179-354-81-30).

6. The District's objective in mathematics for grades nine through twelve could not be measured as stated. The objective was to increase the percentage of students taking high school mathematics courses beyond those required for graduation. Due to the options available to high school students, this information cannot be collected as a manageable statistic.

7. Attainment of the Functional Literacy, the Science/Health, and Social Studies Goal objectives could not be determined since this is the first year that the completed and revised versions of the Basic Objectives Assessment Test (BOAT) for all grade levels was administered District-wide. Moreover, the original goal objectives were based on individual test objectives, and such an analysis would be meaningless and inappropriate for the current format of the BOAT.

8. The School Planning and Accountability notebook was an inadequate guide for campus level planning. The goals failed to address all grade levels clearly. Several objectives could not be measured by existing data. There was too much overlap in the eight priority goal areas which caused unnecessary repetition in the planning process.

Interpretation

In general, the first year of implementation of the Five-Year Priorities Plan for TEA Accreditation proceeded well. All schools completed the campus level planning processes and submitted a one-year school improvement plan. As a review of Table 1 would suggest, 35.6% of all schools developed a plan which was adequate (O.K. But See Notes or Very Good). The data by school level indicate that the high schools had the largest percentage of schools (50%) with plans which were judged initially as adequate. The middle schools had 38.1% adequate and the elementary schools had 32.8% judged adequate before revision. These data should not be surprising for several reasons. First, the School Planning and Accountability notebook was inadvertently designed to accomodate high school circumstances to the point of excluding the elementary school situations in many areas and touching only lightly on middle school situations. For example, some of the year-one annual improvement objectives were stated in terms of measurements which were unavailable to the elementary schools and the middle schools. The thrust of minimum competency for secondary students in the Functional Literacy Goal was not translated into basic skills for the elementary level. Secondly, the instructions for developing the plans were not stated clearly enough to elicit a statement of objectives for each goal at the campus level. Spaces provided for strategies and procedures were misleading and restrictive. Finally, given the inadequacy of the School Planning and Accountability notebook, central administrative staff who were involved with implementation received many requests for individual assistance at the building level. In order to comply with the implementation timelines of TEA, it had been impossible to train more than a limited number of central staff to assist the schools. Obviously, this was more detrimental to the elementary schools in terms of the overall numbers of schools which could receive one-to-one assistance. It must be noted that 45 elementary schools did produce adequate plans compared with the 11 high schools which represent 50% of the high schools.

The differences among subdistricts were neither significantly great nor were they extemely meaningful. Apparently the schools in the Southwest subdistrict experienced somewhat more difficulty than others since only 6 (16.2%) of the 37 schools submitted an adequate plan. The Southeast subdistrict submitted a total of 15 (51.8%) adequate plans from the 29 school plans and the Northwest subdistrict submitted 20 (41.7%) adequate plans of the 48 school plans. Again, the inadequacy of the School Planning and Accountability notebook, coupled with the limited availability of one-to-one assistance would definitely have an effect on these statistics.

The data collected from the site visits in the Spring also demonstrate progress during the first year of the five-year cycle. Twenty-two schools displayed visible evidence that they were implementing their plans. Seven of these schools contained a systematic monitoring process which was not clearly requested in the School Planning and Accountability notebook. Fifteen schools could document activities from their plans. On the other hand, 28 schools could not produce satisfactory evidence that their plans were being implemented.

Many of the problems which have been cited in the text above have already been addressed at all levels. Management Academy sessions and less formal workshops have been conducted for facilitators, central staff administrators, and local building personnel in order to train them in the essentials of campus level planning which is basic to the implementation of the Five-Year Plan. Additional training documents and materials were developed to alleviate problems as they were encountered. Evaluative Information has been fed back from the schools so that the new 1979-80

School Planning and Accountability notebook could be developed in a way which would better facilitate the process. Data sources and resources have been increased for the local schools. It will be necessary to continue these efforts in order to have every school organizing and developing not only an adequate plan but a good plan.

As a review of Table 4 indicates, despite the problems which did occur during the implementation, the District exceeded the achievement objectives for reading and mathematics (grades 1-8) and language arts (grades 1-12) which were measured by norm-referenced tests. In reading the percentage of students who scored at or above the 50th percentile increased by six percent rather than the two percent objective in grades one through eight. Similarly, the gain in mathematics in grades one through eight was eight percent, and language arts for the District, in grades one through twelve, showed a nine percent increase in students scoring at or above the 50th percentile based on large-city norms. Clearly, since the overall five-year objective was originally five percent increases for all of these goals, the five-year objectives must undergo revision in an upward direction.

The reading objective for grades nine through twelve was not reached, but this is not surprising in light of data which exist on remedial reading programs at the high school level. Historically, secondary compensatory reading programs have failed to increase student achievement nationally. The State Compensatory Secondary Reading Program in the DISD has been no exception to this trend. Much work is being done and many changes are continuously being made in an attempt to reverse this situation. As a priority goal for the District, however, it may be preferable to measure the high school reading objective in terms of an overall increase in the performance of all students on the reading subtest of the norm-referenced test.

Since the options available to high school students in mathematics preclude an accurate count of the number of students who take mathematics courses beyond the graduation requirements, it would be reasonable to measure an objective in this area using norm-referenced subtest data. At the local level, high schools may use the strategy of encouraging students to enroll in mathematics courses of all kinds. The achievement outcome, however, should be reflected in the performance of the students on the mathematics subtest of the norm-referenced test.

Although measures for the Functional Literacy Goal were not available due to changes in the BOAT tests for all grade levels, the Spring, 1979 data can be used as the starting point for needs assessment and the statement of objectives for this goal during the 1979-80 school year.

Based on the difficulties which were encountered by the schools using the original School Planning and Accountability notebook, the feedback elicited from school administrators, and the changes in the System-wide Testing Program, the following revisions were recommended for the 1979-80 School Planning and Accountability notebook and the Five-Year Priorities Plan:

1. Since the Science/Health Goals and the Social Studies Goal depend upon the BOAT as measures of objective attainment, these are directed toward the level of minimum competency and basic skills and should be subsumed under the Functional Literacy Goal (Goal 1).
2. The separate Mathematics goals for grades kindergarten through eight and for grades nine through twelve should be combined as one Mathematics Goal (K-12) (Goal 2) and should use objectives stated by grade level based on norm-referenced subtest data.
3. The Reading Goal (K-12) (Goal 3) should use the norm-referenced subtest data for grade level objectives at all grade levels.
4. The Language Arts Goal (K-12) (Goal 4) should use objectives stated by grade level.
5. The format should be left open so that each building can develop a plan which is logical and appropriate for the local environment. Plans from other programs and projects should be included, if appropriate, in whatever format they were originally developed.

Internal Accountability System for Monitoring All of the TEA Principles and Standards

The Texas Education Agency has set forth ten Principles and Standards for the accreditation of school districts. The preceding section of this interpretative analysis discussed the monitoring of compliance with only one of these Principles (Principle 4). Districts must be sure that they also adhere to the other nine Principles during an accreditation cycle.

The Principles are general characteristics of an effective educational program as defined by TEA. The Standards are observable conditions in, or arrangements made by a school district in the process of complying with the Principles. For accreditation purposes, the Standards are the regulations which constitute the criteria for assessing whether the district's performance is satisfactory.

The ten Principles are:

Principle 1. Governance - Conditions existing and developing within the community served by the district are conducive to maintaining a quality educational program.

Principle 2. Governance - The district is in continuous compliance with constitutional and statutory laws.

Principle 3. Governance - Internal arrangements for governance and leadership in the district organization are conducive to desirable morale, systematic accountability, educational improvement, and fiscal responsibility.

Principle 4. Accountability and Educational Improvement - Through vigorous application of an accountability and educational improvement system, the district gives primary emphasis to success in its effort directly focused upon producing student learning.

Principle 5. Curriculum and Instruction - Curriculum content adequate to achieve the student development goals of the district is made available to students through effective programs. The curriculum reflects state and local goals, and the curriculum offerings are evaluated periodically and revised as appropriate.

Principle 6. Curriculum and Instruction - The elements of curriculum covered in Principle 5 are expressed in writing and include content and arrangements consistent with state and local requirements.

Principle 7. Curriculum and Instruction - Constructive, skillful, and personalized teaching is evident in implementing the instructional programs of the district.

Principle 8. Curriculum and Instruction - Instructional and related programs appropriate to special needs of students are provided.

Principle 9. Administrative and Technical Support - Management, administration, and technical resources are used to advance learning by students and to discharge accountability and educational improvement.

Principle 10. Physical Plan and Equipment - The district provides physical plan and equipment which are adequate to support a program that meets the educational needs of its students, are positive in effect upon teaching and learning, reflects citizens' esteem for their schools, and are designed and operated for maximum utilization.

Evaluation Results

1. The Administrative Councils (Development Council, Learning Council, and Management Council) assigned the appropriate department, division, and/or individual the responsibility for completing a self-assessment with respect to the Principles and Standards. The councils gathered evidence such as documentation of activities, procedural policies, budget reports, etc. to substantiate claims of compliance with the Principles and Standards.
2. A complete discrepancy analysis has been initiated to determine the extent to which the self-assessment reveals areas where improvement may be necessary. The results will be provided to the Administrative Councils during the Fall, 1979. Planning for improvement will be carried out immediately during the Fall, 1979.
3. A preliminary review of the self-assessment data indicates that the District generally shows strong compliance with the Principles and Standards, and that evidence and documentation is visible in most areas.

Interpretation

The DISD is structured such that the ten Principles and Standards for accreditation of schools are tailored to it. It is evident that periodic monitoring will be sufficient to assure continuous compliance during the five-year accreditation cycles.

Southern Association Accreditation

The DISD has opted to maintain accredited status with the Southern Association of Secondary Schools. This accreditation assures that the District's graduates will be recognized by institutions of higher education throughout the United States. Each school year, a specified set of high schools undergoes the major evaluative processes necessary to maintain the accredited status. During the 1978-79 school year, David W. Carter High School, Justin F. Kimball High School, and South Oak Cliff High School successfully completed the self-assessment and planning processes required by the Evaluative Criteria, 5th Edition which was developed by the National Study of School Evaluation and is used by the Southern Association. Assistance was provided to these three schools in the form of data from the student database, administration of a Q-Sort during the development of the school philosophy and goals, determination of appropriate samples for student, teacher, and parent opinionnaires, and data analysis of opinionnaire responses.

Summary and Recommendations

The first year of implementation of the Five-Year Priorities Plan for TEA Accreditation was largely a teaching-learning and improvement process. All of the District's schools were able to submit a local school plan in support of the eight priority goal areas. Plans ranged from superior in quality to plans which required complete revision with technical assistance from central staff and the Department of Research, Evaluation, and Information Systems. Two major problems encompassed the entire first year process: (1) lack of adequate time to train central staff to provide assistance to building administrators, and (2) lack of adequate time to train building administrators to effectively carry out a campus level planning process. Moreover, it became apparent that the School Planning and Accountability notebook which was designed to facilitate the planning process was inadequate in many ways. Steps were taken to alleviate these problems as they were encountered.

It became apparent that the eight priority goals could be further limited by making logical combinations. This would avoid needless time-consuming repetition at the planning level. In addition, the objectives for each goal area could be improved by addressing each grade level separately. Again, this would facilitate the planning process.

Spring site visits indicated that only 22 schools showed visible evidence that the school plans were being implemented. It had not been clear to the schools that documentation and internal evaluation systems were an essential part of the entire process. Once again, steps were taken to educate building personnel along these lines with the idea of improvement for the second year of implementation.

Despite implementation problems, the District exceeded its achievement objectives in reading and mathematics in grades one through eight and in language arts in grades one through twelve. The objectives for the Functional Literacy Goal could not be measured due to changes in the format and reporting of the Basic Objectives Assessment Test.

The School Planning and Accountability notebook was revised in accordance with feedback from building personnel and central staff, and with the System-wide Testing Program which provides the appropriate measures for the objectives.

The Administrative Councils completed the preliminary steps in a self-assessment process of gathering evidence of compliance with all of the Principles and Standards for TEA Accreditation. The next steps in the process include discrepancy analyses and the development of any plans necessary to address areas where the visibility of compliance may be weak.

Three of the DISD high schools, David W. Carter, Justin F. Kimall, and South Oak Cliff, successfully completed the evaluative processes prescribed by the Southern Association of Secondary Schools. This means that the DISD secondary schools continue to maintain accredited status with the Southern Association.

In order to continue to improve the accreditation process, the following recommendations should be considered:

1. Revise the Five-Year Priorities Plan for TEA Accreditation to reflect the four priority goals resulting from the logical combination of existing goals, and to state objectives for each of the goals by grade level.
2. Revise the School Planning and Accountability notebook, in accordance with the feedback from school administrators and test data available, such that it will facilitate the campus level planning process.

3. Continue to emphasize the campus level planning processes in personnel development and in the Management Academy.
4. Use central staff administrators as the major support to local building administrators in the planning and implementation stages of the process to insure that all schools produce a quality plan, and that they remain accountable for the implementation of that plan.
5. Increase central staff involvement in the processes of insuring that the District remains in continuous compliance with all of the ten Principles and Standards for TEA Accreditation.
6. Communicate to all personnel the importance of being knowledgeable with respect to TEA Accreditation and their own roles and contributions to the processes.

RE79-806-61-30

An Interpretative Analysis of the Results of the Implementation of the 1978-79 State Compensatory Education Programs

C. LaVor Lym

The following projects were funded under State Compensatory Education during 1978-79: the Secondary Reading Project, the Lincoln High School Renewal Project, the Improving Reading Processes Through Instrumental Music Study, and the East Oak Cliff Community Involvement Project. Provisions were made in the budgets of three of the projects (those other than East Oak Cliff Community Involvement) to support evaluation personnel. A staff of five professionals (one each for Secondary Reading and Instrumental Music and three for Lincoln High School) carried out process and product evaluations of those three projects. Reported herein for each of the projects are (a) a brief description of the project, (b) a summary of the findings of the evaluation, and (c) an interpretation of the findings.

Secondary Reading Project

Mitchell (CE79-301-31-01) reported results of the evaluation of the Secondary Reading Project (SRP). Students in 16 high schools in the district whose achievement in reading was two years or more below grade level were to be served by the SRP. Except for Lincoln, A. Maceo Smith, South Oak Cliff, and Roosevelt High Schools, and the alternative and magnet high schools, all high schools in the district participated in the project. Enrollment among all schools in April 1979 was 5,586. The ethnic distribution of those students was 59.5% Black, 20.9% Hispanic, and 19.7% Other.

The goals of the SRP were as follows:

1. Students would demonstrate continuous progress toward mastery in word-attack skills, vocabulary, and comprehension as measured by the Survey Test of Applied Reading Skills (STARS).
2. At least 60% of the SRP students would achieve at least a 15 percentile point gain for a year's instruction in vocabulary and comprehension as measured by the Iowa Tests of Basic Skills (ITBS).
3. Students would demonstrate progress in content-area reading in mathematics and social studies as measured by the STARS.

Evaluation Results. A questionnaire survey was made of the SRP reading staff in November 1978 and April 1979. Additionally, operation of the reading program was monitored during two periods when classes were observed by an evaluator. The major findings of the process evaluation were as follows:

1. A reading program was implemented in each of the high schools, but because organization of the programs was largely determined by resource teachers, classroom teachers, and school administrative personnel, there were tremendous differences in the structure of the reading programs among the schools and even

among classrooms within schools. Not only did instructional activities differ, but student/teacher ratios varied widely, differences existed regarding the screening and placement of students in the programs, and organization of reading classes and period of enrollment differed. Overall, a general framework of organization was absent. The freedom of implementation extended to schools and teachers resulted in 16 almost mutually exclusive programs, and consequently the instructional efforts were not aimed at a common set of specific instructional outcomes.

2. Approximately one-half of the teachers reported that basic skills in all three focus areas (reading comprehension, vocabulary, and word attack) were not taught. Reading comprehension and vocabulary were reported to have been taught by over 90% of the teachers, but only 55% taught word-attack skills.

3. Some of the instructional activities (e.g., content area reading, a 50-minute cassette tape period, and field experiences) specified in the project proposal were not implemented in many of the schools.

4. Use of the STARS appeared largely to be a waste of time. Diagnosis of life skills and content area reading generally were not significantly important to teachers. Data from the Gates-MacGinitie Reading Test, which was also used for diagnosis, were more highly regarded and more widely used by teachers.

5. Problems relating to record keeping existed in some of the schools. Prescriptions for life skills generally existed as STARS progress forms, but prescriptions for deficiencies in content-area reading or basic skills (comprehension, vocabulary, and word attack) usually did not exist.

6. At some schools it was difficult, if not impossible, to distinguish between reading students and other students. Rosters of participants and eligible students did not exist, and difficulties arose in testing the reading students. Far too many students were not pre- and posttested.

In the product evaluation of the SRP, reading students were tested out of level with the reading and vocabulary tests of the ITBS. Because no percentile ranks relative to a high school norm population were available on the ITBS, the attainment of the objective that at least 60% of the students gain at least 15 percentile points could not be assessed. Instead, the grade equivalent gains made from pre- to posttest were examined.

Presented in Table 1 is a summary of the results from the ITBS. In general, students who were pre- and posttested did not demonstrate grade equivalent gains which would indicate that they were on the way to overcoming skill deficiencies in reading. Pretest reading comprehension scores were approximately 5.0 grade equivalents across grades. Gains in reading comprehension were 0.3 grade equivalent per year or less. Excluding the ninth grade, where the sample was very restricted, pretest scores in vocabulary were comparable to those in reading comprehension. Gains in vocabulary, on the other hand, were somewhat larger, 0.6 grade equivalent per year, but still smaller than those required to indicate that students were significantly overcoming skill deficiencies.

As part of the District's System-wide Testing Program, SRP students also received the Basic Objectives Assessment Test (BOAT). Shown in Table 2 are the percentages of students whose scores fell in the following categories: 0-24 percent correct, 25-49 percent correct, 50-69 percent correct, and 70-100 percent correct. The latter category, 70% correct or higher, for the total score on the BOAT is the criterion for passing the test. As shown in Table 2, 19.7% of the ninth graders, 28.0% of the tenth graders, 32.1% of the eleventh graders, and 36.0% of the twelfth graders passed the BOAT.

Interpretation. The operation of the Secondary Reading Project was beset with many problems, not the least of which was motivating high school students with a history of failure and a high probability of exhibiting discipline problems to make substantial gains in achievement. Although the number of missing test scores may have introduced bias into the achievement statistics, the overwhelming indication was that the SRP students showed very little progress in overcoming their skill deficiencies in reading.

The lack of a consistent program structure, in the opinion of evaluation personnel, severely limited the potential of the SRP to impact the achievement of students. To have the desired impact, an instructional program should be implemented which is divorced from the traditional methods of teaching reading to average or near average students. Elements of behavior modification and strategies to increase the amount of time that students engage in learning should be introduced. Given below are other recommendations which should be considered in redesigning the SRP:

1. Carefully identify the population of program participants according to a screening procedure which includes results from a standardized test administered to all high school students.
2. Establish a set of specific instructional outcomes to be applied in all schools. Implement generally common instructional activities which should produce the desired outcomes.
3. Adopt or design curriculum materials which are congruent to the instructional outcomes and activities. Again, the curriculum should be used (not just available) in all schools.
4. Select or design evaluation measures which relate to the instructional outcomes and the instructional activities/ curriculum.
5. Include strategies and approaches (e.g., a reward system for particular accomplishments or a system to take advantage of peer pressure) to increase students' desire to learn.
6. Teachers in the program should be selected according to qualification in teaching reading and demonstrated ability in motivating low achieving high school students who are likely to exhibit discipline problems.

7. The student/teacher ratio should be held to 15:1 or less and should be approximately equal across schools. Contact between teacher and student should be of greater importance than contact between student and curricular materials.

8. The management component should (a) ensure immediate program staffing, acquisition of materials, and implementation; (b) monitor the operation of the program to ensure that all elements of the general framework are implemented in each school; and (c) establish formal communication between central administrative personnel and instructional personnel so the goals and objectives of the program will be known, so its organization may be consistent across schools, and so teachers will be able to get immediate responses to questions or assistance in solving problems.

Table 1

Performance of Secondary Reading
Students on the ITBS

Statistic	9	10	11	12
Reading				
No. Students[a]	1103	1044	592	180
Pretest GE[b]	4.9	4.7	4.9	5.0
Pretest Standard Deviation	1.36	1.44	1.56	1.74
Posttest GE[b]	5.1	4.8	4.9	4.9
Posttest Standard Deviation	1.49	1.51	1.67	1.85
GE Gain/Yr[c]	0.3	0.2	0.0	<0.0
Vocabulary				
No. Students[a]	122	1014	570	172
Pretest GE[b]	-	4.7	4.9	5.1
Pretest Standard Deviation	-	1.59	1.73	2.06
Posttest GE[b]	-	5.0	5.2	5.4
Posttest Standard Deviation	-	1.63	1.74	2.05
GE Gain/Yr[c]	-	0.6	0.6	0.6

Note. Grade 9 pretested in September and posttested in March (7 1/2 months between tests); grades 10-12 pretested in November and posttested in March (5 months between tests). No statistics are shown for grade 9 Vocabulary because of the small number of students.

[a] Pre- and posttested

[b] GE = grade equivalent

[c] GE gain adjusted to a one-year interval.

Table 2

Performance of SRP Students on the BOAT

Percentage of Items Answered Correctly	Subtests[a] 1	2	3	4	5	6	7	Total
Grade 9 (n=2313)								
0-24	2.9	2.8	4.7	7.4	11.5	20.9	25.2	1.8
25-49	24.6	22.7	19.4	38.4	24.3	43.1	32.6	35.1
50-69	41.4	39.9	30.3	37.4	34.8	24.8	25.1	43.4
70-100	31.1	34.5	45.6	16.7	29.4	11.2	17.1	19.7
Grade 10 (n=1541)								
0-24	2.4	1.9	3.0	5.6	9.9	16.4	22.0	1.9
25-49	16.0	16.0	14.1	28.3	18.8	37.1	29.4	23.2
50-69	41.3	38.9	27.4	38.9	31.3	30.2	27.8	46.9
70-100	40.2	43.2	55.4	27.3	40.0	16.3	20.8	28.0
Grade 11 (n=863)								
0-24	2.1	1.7	3.5	5.6	8.0	15.1	18.7	1.0
25-49	13.4	13.4	12.9	26.9	14.0	32.9	29.4	20.9
50-69	39.7	36.7	25.1	40.2	31.1	32.3	32.0	46.0
70-100	44.7	48.1	58.5	27.3	46.9	19.7	19.9	32.1
Grade 12 (n=403)								
0-24	1.5	1.7	2.0	4.5	7.2	15.1	16.9	1.2
25-49	18.6	11.9	13.6	29.0	15.1	30.8	31.0	20.8
50-69	33.7	31.5	23.1	34.5	29.5	31.0	26.1	41.9
70-100	46.2	54.8	61.3	32.0	48.1	23.1	26.1	36.0

Note. Tabled are the percentages of students according to categories of scores.

[a] The subtests are 1=consumerism, 2=community, 3=medical, 4=home, 5=employment, 6=government, and 7=information sources.

Lincoln High School Renewal

The Lincoln High School (LHS) Renewal Project was begun in 1975-76 to modernize facilities and equipment at the school, expand the teaching skills of faculty members, improve the climate for learning at the school, increase the achievement of students, and foster the development of a positive and authentic self-concept by each student. LHS, which is located in the predominantly Black community of South Dallas, had an enrollment of approximately 1,100 students during 1978-79, all of whom were served by the renewal project.

Two objectives were specified in the application for funds for the LHS Renewal Project. These were:

1. LHS students would exhibit an increase in mean score from pretest to posttest on the Iowa Tests of Educational Development (ITED) which would convert into at least six percentile points.
2. There would be at least a 50% broadened base of involvement in school activities by LHS students as measured by a comparison of activity records for 1977-78 and 1978-79.

Evaluation Results. Lawton and Reed (CE79-300-31-30) reported the findings of the evaluation of the LHS Renewal Project. A summary of the findings is presented below.

1. Shown in Tables 3 through 6 are the ITED results for Lincoln High School in 1978-79, grades 9 through 12, respectively. The first quartile (Q1), median (Md), and third quartile (Q3) percentiles are shown in each table. Q1, Md, and Q3 divide the students who were tested into four groups--25% below Q1, 25% between Q1 and Md, 25% between Md and Q3, and 25% above Q3. Careful inspection of the tables reveals that LHS students scored low on both the pretest and posttest, with most scores being below the 25th percentile. Highest scores were consistently made on the mathematics test. Composite scores increased, determined as an increase in percentile rank from pre- to posttest, for the eleventh grade; declines were found for all other grade levels.

Mathematics scores increased for grades 9 and 10, remained constant for grade 11 and declined for grade 12. The objective for LHS students to show at least a six percentile increase was obviously not met.

2. Test data for quasi-cohort and cohort samples of LHS students from 1975-76 to 1978-79 (the complete duration of the LHS Renewal Project) were analyzed. Median raw and percentile scores generally either remained relatively constant or declined somewhat from 1975 to 1979 when the data were examined cross sectionally (i.e., the fall scores of ninth graders were compared across years and the spring scores for each grade were compared across years). A clear pattern of decline was evident when data were examined longitudinally (i.e., the same class was considered over time). As a typical example, the composite median percentile was 17 for both the quasi-cohort and cohort samples of ninth graders in the fall of 1975. After four years, when these students were seniors, percentile ranks had declined to approximately the fifth percentile.

3. An average of approximately 20% fewer LHS students passed the BOAT (score of 70% or higher) at each grade level than students district-wide. The percentages of LHS students, as compared to all district students, who passed the BOAT were as follows:

Grade	LHS	District-Wide
9	32%	52%
10	41%	66%
11	52%	73%
12	57%	79%

Median percent correct was 60, 65, 70, and 71 for grades 9, 10, 11, and 12, respectively. Students scored best in the areas of medical, community, and consumerism. Lowest scores were found for government and information sources.

4. There was a broadened base of involvement in school activities by LHS students from 1977-78 to 1978-79. However, the objective of a 50% increase was not met. Shown below is a summary of student involvement in activities and organizations from 1975 to 1979.

	1975-76	1976-77	1977-78	1978-79
Assemblies	72	71	52	67
Field Trips	68	103	75	94
Organizations	57	49	57	56

The number of assemblies increased 29% from 1977-78 to 1978-79; field trips increased by 25%; the number of organizations decreased by 2%. The number of participants in field trips was approximately 3,542 students (an average of approximately 3 trips per student). There was a decline from 1,180 to 1,093 in the number of students participating in clubs and organizations from 1977-78 to 1978-79 (memberships overlapped in organizations).

5. Eleven staff development sessions were conducted at LHS during 1978-79. The number of staff members attending the sessions ranged from 70 to 96. Based on surveys of those who attended sessions, staff members generally expressed satisfaction with the sessions. Four of the sessions received an average rating of 4.0 or higher on a scale of 1 to 5; 10 received ratings higher than 3.5. One session was rated comparatively low; it received an average score of 3.0.

Interpretation. The Lincoln High School Renewal Project, during four years of operation, has resulted in many changes at the school. Facilities have been improved, as has the climate for learning within the school. School activities (assemblies, field trips, and organizations) have increased, possibly to the extent that they might have interfered somewhat with academics. Relations between the school and community have been revitalized. The number of faculty has increased as positions were funded under State Compensatory Education, and extensive inservice staff development has been conducted.

Despite the general improvements at Lincoln High School, the achievement of students, as measured by the Iowa Tests of Educational Development (ITED), has not shown any trend toward improvement. Time series data for quasi-cohort and cohort samples of LHS students, when examined cross sectionally, show that the populations of students who entered Lincoln each year from 1975-76 to 1978-79 were very similar. Among subtests, median scores were typically below the 25th percentile, indicating students were well below the national norm for large city schools. Of greater concern, however, should be the longitudinal trends observed in the test scores. The substantial decline in percentile ranks over time indicated that LHS students did not overcome their achievement deficiencies, and in fact those deficiencies actually increased as students attended Lincoln. The only exception was in the area of mathematics. Not only were scores highest on the mathematics subtest, but percentile scores increased during 1978-79 for ninth and tenth grade students.

Results for the Basic Objectives Assessment Test (BOAT) were more encouraging, but still portended deficiency. Fewer than 60% of LHS seniors passed the BOAT, indicating that many students who graduated from LHS in 1978-79 did not possess the necessary academic skills to function adequately in today's society. LHS students did exhibit growth on the BOAT in that the percentage passing the test increased from 32 in grade nine to 57 in grade twelve. Recall, however, that these percentages were, at each grade level, approximately 20% below the district-wide averages for passing the BOAT.

Because of the degree of achievement deficiency that exists among Lincoln students, the school should continue to be focused upon in an effort to raise academic performance. Evaluation personnel recommend, however, that the ITED be abandoned. Another standardized test, one which has greater content validity for the Lincoln setting, should be adopted. The use of the BOAT should be continued as a measure of the extent to which Lincoln students are able to master functional literacy skills.

Another recommendation offered by evaluation personnel is to make every effort at LHS to reduce the student/teacher ratio. This may be accomplished through increasing the amount of time resource personnel spend teaching and decreasing the amount they spend on administrative or facilitating tasks. Instructional time should be optimized, and every effort should be made to expose Lincoln students to the academic program. A balance must be struck between academic involvement and participation in school activities and organizations.

Basics must be emphasized at Lincoln since the test data strongly suggest deficiencies in nearly all areas. Reading and language arts should continue to receive highest priority. Although the achievement in mathematics was encouraging, efforts toward improvement should continue. As LHS students acquire basic skills in language arts and mathematics they will be prepared to improve skills in other areas, such as social studies and science. To turn the achievement trends upward at LHS will require a long-term sustained effort. Progress to date has been discouragingly slow -- further intervention is necessary if the renewal effort is to meet its goal of improving the achievement of students.

Table 3

1978-79 ITED Results for Lincoln High School
Grade 9

	Test						
Statistic	Reading	Language Arts	Math	Social Studies	Science	Sources	Composite
No. Students	159	155	159	159	159	158	155
Pretest Pctile							
Q1	10	6	17	13	8	8	8
Md	17	16	31	24	18	20	17
Q3	23	28	42	31	28	28	25
Posttest Pctile							
Q1	7	2	17	10	7	7	5
Md	14	13	34	23	17	18	15
Q3	24	25	43	37	25	26	25
Criterion Gain[a]	30.8	26.5	42.1	40.9	32.7	30.4	28.4

Note. The pretest was administered in the fall 1978 and the posttest was administered in the spring 1979. Only students with pre- and posttest raw scores which were greater than zero are included. Percentiles are for the large-city norm population.

[a] Gain of at least 6 percentile points from pre- to posttest.

Table 4

1978-79 ITED Results for Lincoln High School
Grade 10

Statistic	Test Reading	Language Arts	Math	Social Studies	Science	Sources	Composite
No. Students	138	134	137	138	138	137	136
Pretest Pctile							
Q1	8	3	16	11	7	7	5
Md	16	12	30	21	16	20	17
Q3	26	27	41	34	29	30	27
Posttest Pctile							
Q1	4	2	18	7	3	9	5
Md	12	10	33	18	16	24	14
Q3	24	22	46	32	24	35	24
Criterion Gain[a]	31.9	29.4	47.4	32.6	33.3	42.3	36.8

Note. The pretest was administered in the fall 1978 and the posttest was administered in the spring 1979. Only students with pre- and posttest raw scores which were greater than zero are included. Percentiles are for the large-city norm population.

[a] Gain of at least 6 percentile points from pre- to posttest.

Table 5

1978-79 ITED Results for Lincoln High School
Grade 11

	Test						
Statistic	Reading	Language Arts	Math	Social Studies	Science	Sources	Composite
No. Students	134	131	133	134	134	132	130
Pretest Pctile							
Q1	5	1	13	7	7	7	3
Md	15	9	27	20	16	19	11
Q3	31	24	37	40	28	34	31
Posttest Pctile							
Q1	6	4	13	8	7	7	6
Md	15	13	27	21	19	20	15
Q3	36	29	40	36	35	35	35
Criterion Gain[a]	27.6	29.8	38.3	32.8	43.3	40.9	31.5

Note. The pretest was administered in the fall 1978 and the posttest was administered in the spring 1979. Only students with pre- and posttest raw scores which were greater than zero are included. Percentiles are for the large-city norm population.

[a] Gain of at least 6 percentile points from pre- to posttest.

Table 6

1978-79 ITED Results for Lincoln High School
Grade 12

Statistic	Reading	Language Arts	Math	Social Studies	Science	Sources	Composite
No. Students	99	97	100	100	100	100	96
Pretest Pctile							
Q1	2	3	9	4	4	5	2
Md	8	8	20	12	11	12	10
Q3	19	22	33	23	21	23	20
Posttest Pctile							
Q1	2	2	6	2	1	2	2
Md	6	7	17	9	6	9	5
Q3	15	23	27	16	15	19	17
Criterion Gain[a]	11.2	18.6	26.0	22.0	21.0	26.0	9.4

Note. The pretest was administered in the fall 1978 and the posttest was administered in the spring 1979. Only students with pre- and posttest raw scores which were greater than zero are included. Percentiles are for the large-city norm population.

[a] Gain of at least 6 percentile points from pre- to posttest.

Improving Reading Processes Through Instrumental Music

The Improving Reading Processes Through Instrumental Music Study was undertaken to identify cognitive processes which are common to both reading and music instruction and to investigate whether or not achievement in reading can be increased through participation in an instrumental music program. Music instruction was hypothesized to lead to improved reading achievement through (a) improved attendance and motivation by students, (b) parental involvement in the child's educational process, and (c) the development of keener perceptual and analytical skills which are common to both reading and music. Specific objectives for the music instruction were as follows:

1. Students would show at least a 5% improvement in attendance for 1978-79 as compared to 1977-78.
2. Parents of all participating students would be contacted by the program staff, and at least 90% of the parents would attend at least one meeting with program staff.
3. At least 75% of the students would complete at least two units in the music curriculum.

Smith and Lym (CE79-302-31-01) reported the results of the evaluation of the State Compensatory Education Instrumental Music Program. The program was implemented at four middle schools: Fred F. Florence, Oliver W. Holmes, Thomas J. Rusk, and Alex W. Spence. For entry into the program, students' reading or mathematics grade equivalent scores on the Iowa Tests of Basic Skills (ITBS) were to be two months or more below grade level. Priority was given to students who participated in the elementary school, Title-I instrumental music program. A total of 151 students participated in the program, 113 in piano instruction and 38 in strings instruction. The distribution of participants by ethnic group was as follows: 69.5% Black, 18.5% Hispanic, and 11.9% Other.

Evaluation Results. Interviews with program staff and observations of music instruction revealed that implementation of the program progressed smoothly throughout the year. Areas used for instruction were judged by evaluation personnel to be adequate in terms of space, lighting, temperature, privacy, furniture, and access to musical instruments. Curricula for piano and various string instruments (violin, viola, cello, and bass) were developed according to plan except for the cello, in which case the highest curriculum level, Level III, was not completed. Levels I and II, however, were completely developed.

Results of (a) the assessment of the degree to which the objectives of the music program were met and (b) investigation of the gains in reading and mathematics achievment made by the music students were as follows:

1. Attendance data were available for 131 of the 151 students who participated in the program. The average percentage of days attended increased slightly from 1977-78 to 1978-79, i.e., from 92.9% to 93.6%. Thus, the objective that students show at least a 5% increase was not achieved. The distribution of gain in attendance (percentage of days attended in 1978-79 less the percentage of days attended in 1977-78) is shown below.

Gain	Percentage of Students
0% or Less	42.7%
1% - 4%	42.8%
5% or More	14.5%

2. The objective relating to parental contact was attained--all parents of students in the music program were contacted in some manner, e.g., phone, letter, progress report, conference, and/or concert. Eighty-four percent of the parents were contacted either by phone or in a personal meeting. However, 48% of the parents, rather than the criterion 90%, attended a meeting with program staff.

3. The objective for at least 75% of the students to complete at least two curriculum units was completely attained. Based on "Criterion Checks" 93% of the piano students completed two or more units and 92% of the strings students completed two or more units.

4. Average grade equivalent scores on the pre- and posttest administrations of the ITBS reading and mathematics tests are shown in Table 7. In reading achievement, approximately one-half of the seventh grade students showed gains of at least 0.1 grade equivalent per month, and approximately one-third of the eighth grade students showed gains of at least 0.1 grade equivalent per month. For mathematics approximately 40% of both seventh and eighth grade students showed gains of at least 0.1 grade equivalent per month.

Table 7

Grade Equivalent Scores for Reading
and Mathematics ITBS Tests

			Pretest		Posttest		Difference	
	Grade	No.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Reading	7	71	4.8	1.45	5.5	1.43	0.7	1.05
	8	65	6.2	1.62	6.6	1.70	0.4	0.87
Mathematics	7	68	5.0	1.20	5.6	1.38	0.6	0.83
	8	65	5.9	1.39	6.5	1.66	0.6	0.92

Note. Statistics are for students having both pretest and posttest. The pretest was administered in September 1978 and the posttest was administered in April 1979 (7 1/2 months between tests).

The program staff, with technical advice from evaluation personnel, also undertook a correlational research study to identify those cognitive processes which might be common to both reading and music. Such an investigation was deemed necessary as a prerequisite to exploring the hypothesis that instruction in music would, through the exercise and development of certain perceptual and analytical skills, result in improved reading achievement. Thus, students in the project were administered a variety of tests in order to examine interrelationships among reading achievement, musical abilities and cognitive abilities. The reading test of the Iowa Tests of Basic Skills (ITBS) was administered to assess reading ability. The project staff constructed two tests, an aural test of music ability requiring written responses and a rating scale for scoring instrumental music performance. Cognitive abilities were assessed by selected tests from the Structure of Intellect Learning Abilities (SOI) Test developed by Dr. Mary Meeker of the SOI Institute. Analysis of the test scores revealed moderately high correlations between the reading test and music tests.

Also investigated was the discriminative power of the different SOI abilities to distinguish between those students who performed well in both music and reading and those who performed poorly in those two areas. The following seven of the SOI tests showed significant differences favoring those students who were the top third scorers on both the ITBS reading test and the music abilities test (written responses): two aurally presented memory span tests involving series of digits, four tests of cognition involving recognition of both figural designs and math and English vocabulary, and one test of evaluation involving matching of complex patterns.

Interpretation. The State Compensatory Education Instrumental Music Program was implemented smoothly and professionally. Instruction was delivered to students as planned, curriculum development generally proceeded according to plans, and a correlational research study was implemented to identify possible intervening variables of cognition which link reading comprehension and the learning of music skills. The objective that all parents be contacted by program staff was completely attained, as was the objective that at least 75% of the music students master at least two curriculum units. Personal contact with parents (phone conversation or conferences) was high although the objective that at least 90% of the parents have a personal meeting with a member of the program staff was not met. The attendance rate of music students increased somewhat from 1977-78 to 1978-79; however, the increase was less than the criterion of at least 5% specified as an objective. Since the attendance rate of the students was initially high (93% in 1977-78), expecting an additional increase of at least 5% was very unrealistic.

The ITBS reading and mathematics pretest scores of music students averaged approximately 2.0 grade equivalents below grade level. Except for eighth graders, gains made by students did not differ substantially from their average past gains. The gain in reading by eighth grade students was smaller than their average gain in the past. Thus, there was no compelling indication that participation in the music program resulted in improved achievement gains for all participants. On the other hand, a substantial number of the music students, 1/2 of the seventh graders and 1/3 of the eighth graders, made noteworthy gains in reading achievement. Approximately 40% at each grade level made noteworthy gains in mathematics achievement.

Findings of the research study were encouraging to say the least. The moderately high correlations between scores on the reading test and scores on the music tests indicate a positive, direct relationship between reading and music achievement. Of course, the results do not support the hypothesis of a causal relationship between reading and music skills, i.e., achievement in music causes a corresponding increase in reading achievement. Particularly interesting was the isolation of cognitive variables which discriminated between high and low scorers on both the reading and music tests. Using these variables it is now possible to design studies to further the investigation of a possible link between learning of reading and music.

Summary and Conclusions

Findings of the evaluations of three projects funded during 1978-79 by State Compensatory Education were discussed in this report. The Secondary Reading Project, the Lincoln High School Renewal Project, and the Improving Reading Processes Through Instrumental Music Study were evaluated by five professional personnel of the Department of Research and Evaluation.

The Secondary Reading Project served 5,586 students in 16 high schools. Reading comprehension and vocabulary scores from the Iowa Tests of Basic Skills did not indicate that students made progress in overcoming skill deficiencies in reading. Concurrently, several problems existed in the implementation and operation of the program. Suggestions were put forth to redesign the program so that instructional objectives are clearly delineated and generally common instructional activities are implemented across all schools. Nontraditional approaches to instruction must be instituted if low achieving secondary students are to be motivated to learn.

1978-79 was the fourth year of operation for the Lincoln High School Renewal Project. All students, grades nine through twelve, at the school were served by the project. Time series data obtained for 1975-76 to 1978-79, on the Iowa Tests of Educational Development were analyzed both cross sectionally and longitudinally. Highest scores, and gains in percentile rank from pre- to posttest for ninth and tenth grades, were found in mathematics. Overall, however, scores were very low and tended to decline as groups of students were tracked longitudinally. Scores on the Basic Objectives Assessment Test were also low -- the rate of failure was approximately double that of the entire district. Because of the tremendous educational needs of students at Lincoln, efforts to elevate achievement should continue through improved delivery of instruction and reduction of the student/teacher ratio.

The Instrumental Music Program supported by State Compensatory Education funds was implemented smoothly and professionally at four middle schools. The number of students served by the program was 151, 113 who received piano instruction and 38 who received strings instruction. With technical assistance from evaluation personnel, the Improving Reading Processes Through Instrumental Music Study was undertaken. Parental involvement in the music program was found to be high, and a slight improvement in school attendance was noticed for participating students. Mastery of music skills was indicated by criterion checks. Pretest reading and mathematics scores of music students were approximately 2.0 grade equivalents below grade level. Gains made during the year by students did not differ substantially from their average past gains. The research study led to the identification of cognitive variables which were common to achievement in both reading and music. Further research is necessary to determine the strength of these variables and the extent to which they may be causal factors in the learning processes of reading and music.

References

CE79-300-31-30 Lawton, J., & Reed, E. Y. Evaluation of the State Compensatory Education Lincoln High School Renewal Project, 1978-79.

CE79-301-31-01 Mitchell, N. Evaluation of the 1978-79 State Compensatory Education Secondary Reading Project.

CE79-302-31-01 Smith, G., & Lym, C. L. Evaluation of the 1978-79 Improving Reading Processes Through Instrumental Music Study.

An Interpretative Analysis of the 1978-79 Evaluation of the Emergency School Aid Act Programs

Jerry Melican

The Federal Government agreed to provide funds to the Dallas Independent School District (DISD) in accordance with the Emergency School Aid Act (ESAA). The 1978-79 school year was the sixth year in which funds were provided to the DISD. In 1973-74 the funds were used to implement a Secondary Reading Program in twelve targeted high schools. In succeeding years the ESAA program was expanded to include a multiethnic education program (1974-76), a reading program in targeted middle (7-8) schools (1975-79), a bilingual education program in targeted intermediate (4-6) schools (1976-79), a community affairs program (1976-79), and a guidance and counseling program (1976-79). Further, in 1976 a mathematics program was added for the targeted intermediate and middle schools, and the reading program was extended to the Magnet High Schools.

During the 1978-79 school year, ESAA funds were provided to the DISD under four grants programs (Basic Grants, Pilot Grants, Special Compensatory Grants, and Magnet School Planning Grants). The funds were to be used to (a) meet the needs incident to the elimination of minority group segregation, and to (b) aid school children in overcoming the educational disadvantages of minority group isolation. The Basic project involved Reading/Mathematics components for 27 intermediate and 17 middle schools, a Reading component for the 6 Magnet high schools, a Guidance and Counseling component for the 27 intermediate schools, a Bilingual component for eight targeted intermediate schools and a Cultural Crossroads Educational Center component. The Pilot project was implemented in the schools in the East Oak Cliff Subdistrict. The Pilot project involved Reading components for students in grades 4-6 and grades 7-12, a Mathematics program for grades 4-6, and two staff development components. The Special Compensatory Program involved a 4-6 Reading/Mathematics component, a Bilingual component for limited English-speaking students attending one elementary school, a Community Involvement component, and a Multicultural Social Studies component. The Special Compensatory program was developed to provide supplementary services to Title-I-eligible students who attended non-Title-I schools. The Magnet School Planning program involved the planning of a Science and Technology Magnet School. The funding period for this program was extended until October 1980. The Private Non-Profit component involved a reading and a mathematics program in eleven schools in the Catholic Diocese of Dallas. The performance of the Administration and Evaluation teams was evaluated for the 1978-79 year. The specific schools that participated in the ESAA components are shown in the Appendix.

The following discussion of the evaluation results is divided into 11 major subheadings. The first six correspond to the Basic projects (grade 4-6 schools, grade 7-8 schools, Magnet High Schools, Bilingual Component, Human Relations/Guidance Component, and Cultural Crossroads Educational Center), while the last five present information on the Pilot, Special Compensatory, Magnet School Planning, Private Non-Profit and Administration and Evaluation projects.

Basic Project - Intermediate Schools

The evaluation of the Basic project in the grade 4-6 schools (Melican and Weckerly, EE79-310-31-20) dealt with the effects of the continued reading and mathematics instructional programs in the 27 intermediate schools impacted by the 1976 desegregation order. The reading and mathematics programs were designed such that individualized supplemental instruction was provided to eligible students through resource teachers and aides (a resource teacher and aide for each subject area was provided at each school). In addition, reading programs in the social studies and mathematics content areas were to be implemented in each of the 27 schools.

The reading and mathematics programs in the 27 schools were, with few exceptions, implemented as mandated in the ESAA proposal. With the exception of three mathematics aide positions, all resource teacher and aide positions were staffed, and the personnel in those positions functioned in accordance with ESAA guidelines. The schools where mathematics positions remained vacant were Foster, Longfellow, and Pershing. Social studies content area programs were implemented in 22 of the 27 project schools, and mathematics content area programs were implemented in 19 of the 27 project schools. Lack of knowledge of program objectives, inadequate staff, insufficient time, and low priority were the reasons for the failure to implement the content area programs at the various schools. Schools without social studies content area programs were Hawthorne, Pershing, Reilly, Rowe, and Sanger. Schools lacking mathematics content area programs were Bayles, Foster, Hawthorne, Ireland, Rowe, Sanger, and Williams.

Two types of analyses were performed relative to the reading and mathematics achievement in the 27 impacted schools. The first type of analysis involved a comparison of the pretest and posttest means. For reading students, scores on the Vocabulary and Reading Comprehension Subtests of the Iowa Tests of Basic Skills (ITBS) and the Gates-MacGinitie Reading Tests were analyzed for significant pre- to posttest gains. In addition, the performance of the ESAA reading students on the social studies section of the Survey Tests of Applied Reading Skills (STARS) was analyzed for significant pre- to posttest gains.

The second type of analysis was designed to assess whether or not participation in the program improved achievement beyond what would be expected if there were no ESAA program. In these analyses the posttest scores (Gates-MacGinitie scores for reading students and Shaw-Hiehle Computation Test scores for mathematics students) were compared with projected posttest scores. The projected posttest scores were computed as a function of pretest score, grade placement, and length of time between pretest and posttest.

Tables 1 and 2 present the achievement gains for ESAA reading and mathematics students, respectively. Achievement gains were measured by both the ITBS and the Gates-MacGinitie. The statistics were computed only for students who had valid pre- and posttest scores.

The data presented in Tables 1 and 2 indicate that:

1. Reading students who took both the pretest and posttest of the ITBS and/or Gates-MacGinitie scored significantly higher on the posttest than they did on the pretest on both the Vocabulary and Reading Comprehension Subtests at all grade levels.

Table 1

Mean Pretest, Posttest, and Gain Scores on the
ITBS and Gates-MacGinitie Reading Tests for
Intermediate School Students Enrolled
in the ESAA Basic Reading Program[a]

Grade	N	Vocabulary			Reading Comprehension		
		Pretest	Posttest	Gain	Pretest	Posttest	Gain
				ITBS			
4	1106	2.4	2.8	.5*	2.2	2.9	.6*
5	1424	2.7	3.3	.7*	2.6	3.4	.8*
6	1547	3.2	4.0	.8	3.1	4.0	.9*
				Gates-MacGinitie			
4	791	1.9	2.3	.4*	1.9	2.2	.3*
5	1120	2.5	3.0	.5*	2.4	2.8	.4*
6	1240	3.0	3.5	.5*	2.9	3.4	.5*

Note. Statistics were computed only for students with valid pre- and posttest scores. Differences between tabled posttest and pretest scores may not be equal to tabled gain scores because of rounding error. A period of one year elapsed between ITBS pretesting and posttesting. The pretest-posttest time interval for the Gates-MacGinitie was seven months.

[a] Scores are reported as grade equivalents.

*Statistically significant at the .05 level.

Table 2

Mean Pretest, Posttest, and Gain Scores
on the ITBS and Shaw-Hiehle Computation Tests
for Intermediate School Students Enrolled
in the ESAA Basic Mathematics Program[a]

Grade	N	Pretest	Posttest	Gain
		ITBS Mathematics		
4	1623	2.6	3.3	.7*
5	1752	3.0	3.9	.9*
6	1878	3.4	4.6	1.1*
		Shaw-Hiehle		
4	1326	3.1	4.0	.9*
5	1129	3.7	4.6	.9*
6	1537	4.4	5.1	.6*

Note. Statistics were computed only for students with valid pre- and posttest scores. Differences between tabled posttest and pretest scores may not be equal to tabled gain scores because of rounding error. The pretest-posttest interval on the ITBS was one year. A period of seven months elapsed between the Shaw-Hienle pretest and posttest.

[a] Scores are reported as grade equivalents.

*Statistically significant at the .05 level.

2. Mathematics students who took both the pretest and posttest of the ITBS and/or Shaw-Hiehle scored significantly higher on the posttest than they did on the pretest at all grade levels.

To assess the practical significance of the gains, the second analysis was undertaken to compare the actual posttest scores with projected posttest scores. Projected posttest scores are those scores the students would have been expected to make without the benefit of ESAA instruction. Tables 3 and 4 present the results of these analysis for the reading and mathematics students, respectively. The data presented in these tables indicate that:

1. Reading students at all grade levels scored significantly higher than expected on the Vocabulary Test of the Gates-MacGinitie. In reading comprehension, only sixth-grade students scored significantly higher than expected on the posttest. Fifth-grade students scored slightly, but not significantly, higher on the posttest than projected while fourth-grade students scored significantly lower than expected on the posttest. This indicates that in vocabulary the pre- to posttest gains of the reading students were of practical significance. That is, due to the effect of ESAA instruction, reading students' rate of gain in vocabulary achievement had been accelerated.

   When reading comprehension is considered, it appears that for fourth-grade students, for undetermined reasons, the program was not effective in maintaining or increasing achievement gain. Since projected reading comprehension results for fifth-grade students were nonsignificant, it can be inferred that their yearly rate of gain had been maintained. Sixth-grade students not only maintained but, in fact, increased their rate of gain in reading comprehension.

2. Mathematics students in the fourth and fifth grades, as measured by the Shaw-Hiehle, scored significantly higher on the posttest than had been expected. Sixth-grade students, however, scored lower on the posttest than had been expected. This indicates that fourth- and fifth-grade students' rate of gain in mathematics achievement had been increased and that these students were beginning to overcome skill deficiencies in mathematics. Sixth-grade students, however, did not appear to experience similar benefits.

Table 3

Mean Projected Posttest, Actual Posttest, and Discrepancy Scores on the Gates-MacGinitie Reading Tests for Intermediate School Students Enrolled in the ESAA Basic Reading Program[a]

Grade	N	Vocabulary			Reading Comprehension		
		Projected	Actual	Discrepancy	Projected	Actual	Discrepancy
4	791	2.3	2.3	.1*	2.2	2.2	-.1*
5	1120	2.8	3.0	.2*	2.7	2.8	.0
6	1240	3.3	3.5	.2*	3.2	3.4	.1*

Note. Statistics were computed only for students with valid pre- and posttest scores. Differences between tabled projected posttest scores and actual posttest scores may not be equal to tabled discrepancy scores because of rounding error.

[a] Scores were given in terms of grade equivalents.

*Statistically significant at the .05 level.

Table 4

Descriptive Statistics for the Shaw-Hiehle Computation Tests -- Projected Posttest and Actual Posttest Results

Grade	N	Projected Posttest	Actual Posttest	Discrepancy
4	1326	3.8	4.0	.2*
5	1129	4.2	4.6	.3*
6	1537	5.1	5.1	-.1

Note. Statistics were computed only for students with valid pre- and posttest scores. Differences between tabled projected posttest scores and actual posttest scores may not be equal to tabled discrepancy scores because of rounding error.

*Statistically significant at the .05 level.

Table 5 presents the achievement gains of ESAA reading students in the social studies content area. To assess the gains in social studies achievement, the social studies section of the STARS was administered to the students. The data in this table indicate that significant gains were made in the number of items correctly answered from the pretest to the posttest for students at all grade and test levels. ESAA students' mastery of social studies concepts had been increased over the course of the year.

Basic Project - Middle Schools

The evaluation of the Basic project in the grade 7-8 schools reported on the implementation of the reading and mathematics programs in 17 middle schools. The reading program included components in the social studies content area and the life skills content area. These components were specifically designed to improve reading skills in the content areas.

In general, the reading and mathematics programs were implemented as designated in the program proposal. All positions were staffed, with minor exceptions. The members of the staff were functioning as specified (Melican and Wells, EE79-311-31-20).

Three types of analyses were performed relative to the reading and mathematics achievement in the 17 impacted schools. First, scores on the ITBS, the Gates-MacGinitie, the STARS, and the Shaw-Hiehle were analyzed for significant pre- to posttest gains. Second, the posttest scores on the Gates-MacGinitie and the Shaw-Hiehle (the tests primarily chosen for program evaluation) were compared with projected posttest scores to determine whether or not the ESAA program resulted in additional gains in

Table 5

Mean Number of Correct Items for Intermediate School ESAA Reading Program Students on the Social Studies Section of the Survey Test of Applied Reading Skills

Grade	N	Test Level	Pretest	Posttest	Gain
4	531	1	2.1	2.5	.5*
5	804	1	2.5	3.1	.6*
6	681	1	2.8	3.4	.5*
6	90	2	3.5	4.2	.7*

Note. Statistics were computed only for students with valid pre- and posttest scores. Differences between tabled pre- and posttest scores may not equal tabled gain scores because of rounding error. The pretest to posttest time interval for the STARS was six months.

*Statistically significant at the .05 level.

achievement. Finally, percentages of items answered correctly on the Basic Objectives Assessment Test (BOAT) were reviewed.

Tables 6, 7, and 8 present the means for the pretests, posttests and gains for the various tests that were administered to the ESAA reading and mathematics students. Table 6 presents the vocabulary and reading comprehension results for both the Gates-MacGinitie and the ITBS. Table 7 presents the results of the Shaw-Hiehle and the Mathematics Problem Solving Subtest of the ITBS. The gains from pretest to posttest were statistically significant in almost all cases. Table 8 presents the results of the Social Science and Life Skills sections of the STARS.

Specifically, the following results can be reported.

1. The students in the ESAA reading program exhibited significant pretest to posttest gains on both the Reading Comprehension and Vocabulary Subtests of the ITBS and on the Gates-MacGinitie.

2. The students in both grades exhibited significant gains from pretest to posttest on both mathematics tests of interest.

3. The students in both grades exhibited significant pretest to posttest gains on the Life Skills section of the STARS. The only exception to this was made by the seventh-grade students who took the highest (most difficult) level of the STARS.

4. The students in both grades exhibited significant gains from pretest to posttest on the Social Science section of the two lower level STARS. The students who were administered the highest level of the STARS did not gain significantly.

To investigate the practical significance of pre- to posttest gains in vocabulary, comprehension, and computation, the actual posttest scores were compared to projected posttest scores. Table 9 presents the results of these comparisons. The major findings are indicated below.

Table 6

Means of the Pretest, Posttest and Gain Scores for Vocabulary and Reading Comprehension Tests

Grade	Test Level	N	Vocabulary			Reading Comprehension		
			Pretest	Posttest	Gain	Pretest	Posttest	Gain
				ITBS				
7	NA	2212	3.9	4.7	.8	3.9	4.7	.8*
8	NA	1870	4.2	5.3	1.1	4.2	5.3	1.1*
				Gates-MacGinitie				
7	C	840	2.7	3.0	.3	3.0	3.6	.6*
7	D	952	3.3	4.2	.9	3.4	3.8	.4*
8	C	755	3.6	3.8	.2	3.4	4.0	.6*
8	D	829	3.4	4.1	.8	3.9	4.4	.5*

Note. Due to a rounding error the mean gains may not be exactly equal to the difference between the pretest and posttest means. The pretest-posttest interval was one year for the ITBS and seven months for the Gates-MacGinitie.

*Statistically significant at the .05 level.

Table 7

Means of the Pretest, Posttest and Gain Scores for the Selected Mathematics Tests

Grade	N	Shaw-Hiehle			N	ITBS Problem Solving		
		Pretest	Posttest	Gain		Pretest	Posttest	Gain
7	3056	4.1	5.1	1.0*	2891	4.0	5.1	1.0*
8	2830	4.6	5.5	.9*	2568	4.4	5.7	1.3*

Note. Due to rounding error the mean gains may not be exactly equal to the differences between the pretest and posttest means. The pretest-posttest interval was seven months for the Shaw-Hiehle and one year for the ITBS.

*Statistically significant at the .05 level.

Table 8

Means of the Pretest, Posttest, and Gain Scores for the Survey Tests of Applied Reading Skills

Grade	Test Level	N	Pretest	Posttest	Gain
Life Skills Subtest					
7	A	1435	4.6	6.0	1.3*
7	B	183	3.8	4.2	.5*
7	C	14	6.5	6.1	-.4
8	A	1071	5.6	6.5	.9*
8	B	210	4.3	5.2	1.0*
8	C	30	5.5	6.7	1.2*
Social Science Subtest					
7	A	1456	3.0	3.7	.7*
7	B	184	3.3	4.4	1.1*
7	C	14	3.8	4.0	.2
8	A	1071	3.3	4.0	.6*
8	B	210	4.5	4.9	.4*
8	C	30	3.6	3.9	.3

Note. The scores for the Life Skills Subtest represent the number of objectives mastered during the year. The total number of objectives was 9 for Level A, 8 for Level B and 11 for Level C.

The scores for the Social Studies section represent the number of items answered correctly. There were six possible items for all three levels.

Due to rounding error the mean gains may not be exactly equal to the differences between the pretest and posttest means. The pretest to posttest time interval for the STARS was seven months.

*Statistically significant at the .05 level.

Table 9

Mean Projected Posttest, Actual Posttest, and Discrepancy Scores of Middle School Students Enrolled in the ESAA Programs

			Gates-MacGinitie									
			Vocabulary			Comprehension				Shaw-Hiehle Computation Test		
Grade	Test Level	N	Projected	Actual	Discrepancy	Projected	Actual	Discrepancy	N	Projected	Actual	Discrepancy
7	C	840	3.0	3.0	.1	3.3	3.6	.3	3056	4.5	5.1	.6*
7	D	952	3.6	4.2	.6*	3.7	3.8	.1				
8	C	755	3.9	3.8	-.1	3.7	4.0	.3*	2830	5.0	5.5	.5*
8	D	829	3.7	4.1	.5*	4.2	4.4	.2*				

Note. Statistics were computed only for those students who took both the pre- and posttests. Scores are reported by grade equivalents. The pretest-posttest interval was seven months for both the Gates-MacGinitie and the Shaw-Hiehle.

*Statistically significant at the .05 level.

1. ESAA students participating in the reading program demonstrated in 5 areas statistically significant gains which were also of practical significance (i.e., the gains were greater than expected). In the remaining 3 areas exceptions were found on the Gates-MacGinitie. There were non-significant differences between the actual and the projected posttest means for the seventh- and eighth-grade Level C vocabulary and for the seventh-grade Level D reading comprehension. However, where significant gains were made the smallest gain was .2 grade equivalent and the largest gain was .6 grade equivalent.

2. ESAA students participating in the mathematics program demonstrated gains greater than projected.

Basic Project - Magnet High Schools

This evaluation investigated the effects of implementing a reading improvement program in the six magnet high schools. In general, the program was implemented as designated in the program proposal. Staffing was completed by January 1979. The staff functioned as specified.

Resource teachers at the two part-time magnets reported problems with regular scheduling of reading students. This scheduling problem was caused by the small amount of time the students spent at the magnet school. The time spent in reading instruction was taken out of the career cluster block, and this was not always done on a regular basis.

Three types of analyses were performed relative to the reading achievement in the six impacted schools. First, scores on the Gates-MacGinitie, the Iowa Tests of Educational Development (ITED), and the Life Skills Subtest of the STARS were analyzed for significant pre- to posttest gains. Second, posttest scores on the Gates-MacGinitie were compared with projected scores as a test of the practical significance of the gains. Finally, percentages of items answered correctly on the BOAT were reviewed.

Tables 10 and 11 present the mean pretest, posttest and gains of students enrolled in the magnet school reading program. The results in these tables indicate that:

1. There were no significant differences between the pretest and posttest means for either the Gates-MacGinitie or the ITED. It should be noted that pretest and posttest ITED scores were available for only 25 students so that grades 10-12 were combined. These results were reported for the sake of completion but should not be viewed as conclusive.
2. Students in the ninth grade mastered significantly more objectives on the posttest than on the pretest of the Life Skills section of the STARS. The eleventh grade did not gain significantly, and there were too few scores to analyze for the tenth and twelfth grades.

To investigate the practical significance of the pretest to posttest gains on the Gates-MacGinitie, the posttest means were compared to projected posttest means. The results of these analyses are reported in Table 12. These results indicate that there was no significant difference between the actual posttest and the projected posttest means. Although in almost all cases the students in grades 9-11 either lost or gained a month (see Table 10), the results of the projected versus actual comparisons were non-significant because the pretest means were so low that the projected means were only 2 or 3 months higher than the pretest means. The students in grade 12 did exhibit average gains of 9 and 7 months on the Vocabulary and Reading Comprehension Subtests, respectively, but the small number of twelfth graders resulted in these gains being non-significant in the statistical sense.

Finally, the students in grades 9-12 were administered the BOAT as part of the DISD System-wide Testing program. On the average, the ninth-grade students answered 57% of the total number of items correctly. The

Table 10

Mean Pretest, Posttest and Gain Scores for Magnet Students Enrolled in the ESAA Reading Program

Grade	N	Vocabulary Pretest	Vocabulary Posttest	Vocabulary Gain	Reading Pretest	Reading Posttest	Reading Gain
				Gates-MacGinitie			
9	135	4.0	4.3	.3	4.3	4.4	.1
10	81	4.9	4.8	-.1	4.7	4.7	-.1
11	56	5.1	5.1	-.1	5.6	5.7	.1
12	16	4.7	5.6	.9	4.3	5.0	.7
				ITED			
9[a]	132	-	7.4	-	-	11.5	-
10-12	25	7.0	7.2	.20	13.2	12.8	.4

Note. Statistics were computed only for those students who took both the pre- and posttests. The pretest-posttest interval was seven months for the Gates-MacGinitie and one year for the ITED. The ITED means were the mean number of items answered correctly.

[a] Ninth-grade students did not have a pretest scores because they did not take the ITED in 1977-78.

Table 11

Mean Number of Objectives Mastered on the Pretests and Posttests and Gains for the Life Skills Section of the Survey Test of Applied Reading Skills

Grade	N	Pretest	Posttest	Gain
9	73	5.21	5.82	.62*
10	Insufficient Data			
11	38	6.37	6.26	-.11
12	Insufficient Data			

*Statistically significant at the .05 level.

Table 12

Comparisons Between Mean Projected and Actual Posttest Scores on the Gates-MacGinitie for ESAA Magnet Students

Grade	N	Projected Posttest	Actual Posttest	Difference
		Vocabulary		
9	135	4.3	4.3	.0
10	81	5.2	4.8	-.4
11	56	5.3	5.1	-.2
12	16	5.0	5.6	.6
		Reading Comprehension		
9	135	4.6	4.4	-.2
10	81	5.0	4.7	-.3
11	56	5.8	5.7	-.1
12	16	4.6	5.0	.4

Note. N is the number of students who were administered both the pretest and the posttest. The pretest-posttest interval was seven months.

average percentage of items answered correctly by the tenth-, eleventh-, and twelfth-grade students was 58%, 65%, and 56%, respectively.

Basic Project - Bilingual Component

The bilingual education component was implemented at eight of the 27 schools impacted with ESAA funds.

All six of the supplementary teachers taught Language Arts and Reading. However, one teacher also taught another subject (Social Studies), and three supplementary teachers' lessons were not supplemental to the bilingual students' basic Language Arts/Reading program. They were providing all of the Language Arts Reading instruction for their students. As of March 15, 1979, 3 of the 18 aide positions were vacant. The high turnover rate of the aides was a problem that continued throughout the school year. Steps to English and Palo Alto were used at all eight schools to teach English Language Arts and Reading to the ESAA bilingual students (Melican and Patton, EE79-313-31-05).

Training sessions for bilingual supplementary teachers, classroom teachers, and teacher aides were conducted in June and November 1978. All of the sessions were attended by at least 50% of the supplementary teachers. There were fewer classroom teachers, and even fewer aides, who attended.

The Palo Alto reading program consisted of 43 unit tests, called monitors. Once a student completed a unit, a monitor test was given to determine mastery of the material that was presented. The students did not proceed to the next unit until mastery was achieved. The average number of monitors that were taken and mastered between September and May was 9.8 for the fourth-grade students, 9.1 for the fifth-grade students, and 7.2 for the sixth-grade students.

Two types of analyses were performed relative to the vocabulary and reading achievement of the bilingual students at the eight impacted schools. First, scores of the ESAA special Compensatory bilingual students on the Vocabulary and Reading Comprehension Subtests of the ITBS were analyzed for significant pre- to posttest gains. Then, to assess whether or not gains made through participation in the program were of practical significance, posttest scores were compared with projected posttest scores.

Table 13 presents the achievement gains for the ESAA Basic bilingual students on the ITBS. Examination of Table 13 reveals that the gains made from pretest to posttest were statistically significant for all three grades. The gains in vocabulary ranged from 4 months for the fourth grade to 9 months for the sixth grade. The gains in reading comprehension ranged from 5 months for the fourth grade to 1 year for the sixth grade.

To investigate the practical significance of the pre- and posttest gains, the actual performance on the posttest was compared to the projected posttest performance (see Table 14).

Examination of Table 14 reveals that fifth- and sixth-grade students scored significantly higher on the Reading Comprehension and Vocabulary posttests than would have been expected without supplemental ESAA instruction. The differences between the actual posttest and the projected posttest means were not significant for the fourth-grade

Table 13

Mean Pretest, Posttest, and Gain Scores for ESAA Basic Bilingual Students on the ITBS

Grade	N	Vocabulary Pretest	Vocabulary Posttest	Vocabulary Gain	Reading Comprehension Pretest	Reading Comprehension Posttest	Reading Comprehension Gain
4	158	2.3	2.7	0.4*	2.1	2.6	0.5*
5	202	2.2	3.0	0.8*	2.3	3.1	0.8*
6	170	2.8	3.7	0.9*	2.8	3.8	1.0*

Note: Statistics were computed for students who took both the pre- and posttest. The difference between the tabled posttest and pretest values may not equal the tabled gain scores because of rounding error. Grade equivalent scores are shown.

*Statistically significant at the .05 level.

students. In other words, the fourth-grade students had continued to progress at the rate they had exhibited prior to the posttest while the fifth- and sixth-graders had increased their rate of growth.

Basic Project - Human Relations/Guidance Component

Funding was provided for 13 counselors, with each counselor serving 2 schools. A "formal" counseling program was not implemented at the 27th school although this school was served by the project manager one-half day per week. Campus planning teams were functioning at the 26 schools. The teams were composed of the counselor, teachers, parents, and, except in one case, the principal. Materials and procedures for needs assessment activities were determined (Melican and Patton, EE79-313-31-05).

Individual Campus Guidance Plans, stating goals, objectives, processes, and student outcomes, were developed at 26 of the 27 impacted schools. The services were focused on the high priority needs identified in the needs assessments. The counselors involved students, teachers, and parents in activities specified in the plans.

Three personnel development activities were evaluated. A test was given after each of the first two meetings. The first meeting involved a demonstration of the use of the Parent Materials and Information Center. The posttest revealed that 100% of the counselors who completed the test understood the material that was presented. The second activity was the demonstration of the Focus Kit. The test revealed that 95% of the counselors understood the material that was presented. A pretest in November 1978 and a posttest in March 1979 were given for a third

Table 14

Comparisons Between Projected and Actual Posttest Means for ESAA Basic Bilingual Students on the ITBS

		Vocabulary			Reading Comprehension		
Grade	N	Projected	Actual	Discrepancy	Projected	Actual	Discrepancy
4	158	2.9	2.7	-0.2	2.6	2.6	0.0
5	202	2.7	3.0	0.3*	2.8	3.1	0.3*
6	170	3.3	3.7	0.4*	3.3	3.8	0.5*

Note: Means presented are for students who took both pre- and posttest. Differences between tabled expected and actual posttest scores may not be equal to the tabled discrepancy score because of rounding error. Grade equivalent scores are shown. The pretest-posttest interval was one year.

*Statistically significant at the .05 level.

personnel development activity which was designed to improve the counselors' helping (consultation) skills. The results indicated that there was a significant improvement of helping responses from pre- to posttest.

Basic Project - Cultural Crossroads Educational Center

A portion of the ESAA funds were to be used to establish a Cultural Crossroads Educational Center which would contain multicultural displays. Fourth-grade students from 10 schools were to visit the Center so that they might view and develop an appreciation for their own and other cultures. The staff of the Center was to (a) design the exhibits regarding the various cultures, (b) guide the students through the center and lead discussions, (c) plan and conduct seminars and workshops for classroom and resource teachers, administrators, and principals, and (d) present programs about various cultures to parents and other interested community groups.

The Cultural Crossroads Educational Center was not in operation during the 1978-79 school year as planned. The members of the staff included four resource teachers, a librarian and a secretary. The first resource teacher was hired in April 1979 and the last was hired in June 1979. The librarian was hired in March and the secretary was hired in May. There was a position for an artist/illustrator which was not filled. The staff did begin implementing many of the activities, but the delay in staffing precluded successful completion of most activities (Melican, EE79-319-31-05).

The Center was not operational during the 1978-79 school year, but some students were transported to the African-American Cultural Heritage Center and the Mexican-American Cultural Heritage Center. A total of 575 students from six of the ten designated schools visited the two centers.

At the centers the students were given a lecture and were able to view slides and the displays. Five hundred and seventy-five students participated in a poster contest, and prizes were awarded. The Multicultural Festival was held and was attended by 56 parents and students. The original intention of the project was to have the students become actively engaged in various activities after their visit to the Center. These activities were to enhance the students' awareness of their own and other cultures. For example, after the Center visit, the students were actively to study and discuss the people, the homes and the life-styles of the various cultures. They were to compare and contrast the family roles within the different cultures, and they were to develop a program about their visit to the Center and present this program to the PTA. These follow-up activities were not assessed because of the lack of time remaining in the school year after the visits to the Center. However, this lack of time would probably prevent the students from completing many of the follow-up activities.

The students who attended the two centers were pretested and posttested with a multicultural awareness scale that was developed by the staff with the aid of evaluation personnel. There were, in fact, two awareness scales--one for each of the Heritage Centers. These tests were designed to assess attitudinal and cognitive changes in the students.

Due to the late staffing, the tests were not developed and administered to the students until late in the year. Therefore, there was no pilot period. Further, the amount of time intervening between pre- and posttesting was not sufficient to allow the students to assimilate the material. The tests should be viewed as pilot tests. The results do suggest that the test should be lengthened, as should the amount of time intervening between the pre- and posttest administrations.

The Center staff did visit each of the schools, and they presented an orientation lecture to the teachers as designated in the proposal. However, the in-service training sessions designated in the proposal were not held during the 1978-79 school year. In June 1979 a staff development session was attended by teachers from the participating schools. Three sessions were held and the attendance was 48, 84, and 44, respectively. During these sessions the teachers were asked to identify their needs with respect to a Cultural Crossroads Center. These needs were to be addressed in a staff development session held in August.

Two of the 10 community presentations designated in the proposal were given. Programs were presented at two community meetings in June. The two meetings were held at Little Mexico Village and the Bataan Center. Slide presentations were given. PTA presidents were notified as to the availability of the presentation, and they were requested to put the presentation on next year's agenda.

Pilot Project - East Oak Cliff

The evaluation of the East Oak Cliff Pilot project addressed the implementation of (a) the reading and mathematics component in grades

4-6, (b) the reading component in grades 7-12, and (c) two staff development components. During the 1978-79 school year the ESAA Pilot project in the East Oak Cliff Subdistrict was in its second year of operation.

Delays in obtaining personnel hindered the starting of the ESAA program. The supplemental reading program was implemented in 22 of the 23 designated schools by November 1978. Patton Elementary school did not have any ESAA staff. Also, there was no supplementary teacher at Smith High School. The mathematics component was not fully implemented in any of the ten designated schools because of an inability to hire any mathematics resource or supplementary teachers. The only ESAA mathematics personnel were teacher's aides who were supervised by Title-I Instructional Resource Teachers and DISD classroom teachers.

Three types of analyses were performed to assess the effects of the reading programs. First, the means from the pretest and the posttest administrations of selected tests were compared to analyze gains. Four tests were utilized for the reading students. They were the ITBS, the ITED, the BOAT, and the Gates-MacGinitie Reading Test. The scores on the Shaw-Hiehle Computation Test were to be collected for mathematics students, and similar analyses were to be performed; however, due to lack of personnel these scores were not obtained. Second, actual posttest performance on the Gates-MacGinitie Reading Tests was compared with projected performance to determine whether or not the ESAA program resulted in additional gains in achievement. Third, the results of the administration of the Basic Objectives Assessment test for grades 6 and 8-12 were reviewed.

Table 15 presents the achievement data on the Vocabulary and Comprehension Subtests (grades 4-8) and the Gates-MacGinitie Reading Tests (grades 4-12). Inspection of this table reveals:

1. The students enrolled in the ESAA Pilot project in grades 4-8 demonstrated significantly higher posttest scores than pretest scores on both the Vocabulary and Reading Comprehension Subtests of the ITBS.

2. The ESAA reading students in all grades demonstrated significant pretest-posttest gains on the Vocabulary Subtest of the Gates-MacGinitie. The students in grades 4-9 demonstrated significant pretest-posttest gains on the Reading Comprehension Subtest. The tenth- and eleventh-graders did not demonstrate a significant gain. The number of twelfth-graders was insufficient to allow any statistics to be calculated.

The practical significance of the gains shown in Table 15 was examined by comparing the performance on the posttest to projected performance on the posttest. Results are shown in Table 16. The results of these analyses can be divided into three kinds. They are as follows:

1. Nonsignificant differences. In nine cases the differences between the actual posttest mean and the expected posttest mean were not statistically signficiant (grades 5, 7, 8, 9, 10, and 11 on the Vocabulary Subtest and grades 4, 6, and 10 on the Reading Comprehension Subtest). It should be noted that the projected scores are derived under the assumption that the students will continue to grow at the same rate as before. This is a slightly stringent assumption for remedial students who tend to gain at a slower rate as time progresses. Therefore, nonsignificant differences should not be viewed as negative programmatic results.

2. Significant negative results. In four cases the differences were significant and negative. The actual posttest mean was significantly below the projected posttest mean for grades 4 and 6 on the Vocabulary Test and for grades 5 and 11 on the Reading Comprehension Test. In these cases the students did not perform as well as projected.

3. Significant positive results. Finally, in 3 cases (grades 7, 8, and 9 on the Reading Comprehension), the actual posttest mean was significantly higher than the projected posttest mean. These results are truly indicative of positive changes in the students.

Table 15

Mean Pretest, Posttest and Gain Scores for Students Enrolled in the ESAA Pilot Programs

Grade	N	Vocabulary			Reading Comprehension		
		Pretest	Posttest	Gain	Pretest	Posttest	Gain
				ITBS			
4	331	2.3	2.8	0.5*	2.2	2.9	0.7*
5	408	2.8	3.2	0.4*	2.7	3.3	0.6*
6	355	3.3	4.0	0.9*	3.2	3.9	0.8*
7	793	3.5	4.2	0.7*	3.5	4.3	0.8*
8	363	3.8	4.8	1.0	3.8	4.7	0.9*
				Gates-MacGinitie			
4	166	2.3	2.5	0.2*	2.0	2.3	0.3*
5	275	2.6	2.9	0.3*	2.4	2.6	0.2*
6	236	3.3	3.5	0.2*	3.0	3.4	0.4*
7	497	3.8	4.3	0.5*	3.4	4.8	1.3*
8	42	3.8	4.3	0.5*	3.5	4.8	1.3*
9	47	4.7	5.1	0.4*	4.5	5.6	1.1*
10	18	2.4	2.8	0.3*	2.6	2.7	0.1
11	11	2.3	3.1	0.8*	2.9	2.6	-0.3
12	Insufficient data						

Note. Means are presented for students who took both the pretest and posttest. The difference between tabled pretest and posttest values may not equal the tabled gain score because of rounding error. The pretest-posttest interval was 12 months for the ITBS and 7 months for the Gates-MacGinitie.

*Statistically significant at the .05 level.

Table 16

Comparisons Between Projected and Actual Posttest Scores for Students Enrolled in the ESAA Pilot Program

Grade	N	Vocabulary			Reading Comprehension		
		Projected	Actual	Discrepancy	Projected	Actual	Discrepancy
				Gates-MacGinitie			
4	166	2.6	2.5	-0.1*	2.3	2.3	-0.1
5	275	3.0	2.9	-0.1	2.7	2.6	-0.1*
6	236	3.7	3.5	-0.2*	3.3	3.4	0.1
7	497	4.2	4.3	0.1	3.8	4.8	1.0*
8	42	4.1	4.3	0.1	3.8	4.8	1.0*
9	47	5.1	5.1	0.0	4.8	5.6	0.8*
10	18	2.6	2.8	0.2	2.8	2.7	-0.1
11	11	2.4	3.1	0.7	3.0	2.6	-0.4*
12	Insufficient data						

Note. Statistics were computed only for students with valid pre- and posttest scores. Differences between projected posttest scores and actual posttest scores may not be equal to the tabled discrepancy scores because of rounding error. Grade equivalent scores are shown.

*Statistically significant at the .05 level.

Table 17 presents the pre- and posttest achievement test data for ESAA students on the Vocabulary and Comprehension Tests of the ITED and the number of objectives mastered on the Life Skills subtest of the STARS. Analysis of these tables is as follows:

1. Pretest-posttest analyses were not performed for either the ninth or twelfth grades. The ninth-grade students were not given the ITED in 1977-78 and there were too few twelfth-grade students with both pre- and posttest scores to warrant statistical analysis of their scores. The results for the tenth and eleventh grades indicate that there was no significant gain in the number of items answered correctly from pretest to posttest. The difference between the means was not statistically significant.
2. Results for the number of objectives mastered on the Life Skills Subtest for grades 9-12 are not reported because the data collected were inaccurate. The reason may be that the resource teachers for grades 9-12 may have reported the number of items answered correctly and not the number of Life Skills objectives mastered. An analysis of the number of items would not indicate the number of objectives mastered. On the average the seventh- and eighth-graders mastered 1.3 and 2.9 more objectives on the posttest than on the pretest during the 1978-79 school year. These gains were statistically significant.

Descriptive statistics for the BOAT showed sixth-grade students answered 59.6% of the items on the reading test correctly. For grades 8 through 12 the total test score was of interest. Eighth-grade students answered 48.9% of the total number of items correctly, ninth-grade students answered 50.9% correctly, tenth-grade students answered 49.6% correctly, eleventh-grade students answered 44.3% correctly, and the twelfth-grade students answered 51.1% of the items on the total test correctly. The test was not administered to seventh grade students.

The ESAA staff development program was implemented in 12 intermediate (grade 4-6) schools, 3 middle (grade 7-8) schools, and 3 secondary schools. Staff development for teachers and the paraprofessional staff

Table 17

Pretest, Posttest and Gain Means for the Raw Scores for the Iowa Tests of Educational Development and for the Number of Objectives Mastered on the Life Skills Section of the Survey Tests of Applied Reading Skills

Grade[a]	N	ITED Comprehension			ITED Vocabulary			Life Skills		
		Pretest	Posttest	Gain	Pretest	Posttest	Gain	Pretest	Posttest	Gain
7	204							2.8	4.1	1.3*
8	41							2.9	5.8	2.9*
9	209	NA	11.2	NA	NA	6.8	NA	Inaccurate Data		
10	68	12.5	12.4	-0.1	8.1	8.1	0.0	Inaccurate Data		
11	49	11.9	11.7	-0.2	7.6	8.1	0.4	Inaccurate Data		

Note. Means are presented for students who took both the pre- and posttest. The difference between tabled pretest and posttest values may not be equal to the tabled gain score because of rounding error. The pretest-posttest interval was twelve months.

NA = Data not available.

*Statistically significant at the .05 level.

[a]Students in grades 7, 8, and 12 were not administered the ITED.

began August 21, 1978, with teachers meeting for the first time at their respective schools. A continuous staff development program was implemented throughout the project period. Regular staff development sessions were held.

The Individually Guided Education (IGE) staff development program was implemented in 3 ESAA Pilot Project schools, and in 2 East Oak Cliff K-3 schools by August 1978. The first meeting, which was for new teacher orientation, was held August 15, 1978. Throughout the project period materials were presented to participating teachers. These materials permitted teachers to employ greater individualization of instruction. Regular staff development sessions were held throughout the project period.

Special Compensatory Project

The evaluation of the Special Compensatory Project dealt with the implementation and accomplishments of the components funded under this grant (Melican and Patton, EE79-317-31-20). These components were reading and mathematics, staff development, community involvement, multicultural social studies, and bilingual education. The project was implemented at the five designated non-Title-I schools. Eligibility was based on a combination of having attended a Title-I school prior to enrollment at the present school, standardized test performance, and informal measures.

There were problems in the implementation of the Special Compensatory Project. The project implementation was begun very late in the school year. The filling of positions was not begun until January 1979. One reading resource teacher position and one parent ombudsman position were not filled as of April 3.

The reading and math teachers were implementing the program as proposed, with four exceptions. In two cases the teachers were instructing both Title-I and non-Title-I students. In two other cases the Special Compensatory teachers were supplying all of the math and/or reading instruction for their students. Four teachers did not have Title-I materials.

The non-instructional parts of the Multicultural Social Studies Program were implemented, but the instructional parts were not instituted in the five schools. That is, due to the lack of time remaining in the school year, the resource teachers were concentrating on selecting and developing materials and activities to be used in the classroom next year, but the teachers were not ready to enter the classrooms and implement the materials and activities during the 1978-79 school year.

The Bilingual Education Program was implemented and functioning at Lakewood. There were not enough Palo Alto and Steps to English materials available, and there were not any Spanish Title-I materials.

The 20-hour staff development program listed in the proposal was not planned or instituted because a staff development facilitator was not employed.

The Community Involvement program was implemented as specified at two of the five schools.

Two types of analyses were performed relative to the reading and mathematics achievement in the five impacted schools and to the vocabulary and reading achievement of the bilingual students at Lakewood. First, scores of ESAA Special Compensatory students were analyzed for significant pre- to posttest gains. The Vocabulary and Reading Comprehension Subtests of both the Gates-MacGinitie and the ITBS were used for the reading students. The Math Problems Solving Subtest of the ITBS and the Shaw-Hiehle were used for the math students. The ITBS reading and vocabulary scores were also analyzed for the bilingual students. Then, to assess whether or not gains made through participation in the program were of practical significance, posttest scores were compared with projected posttest scores using the Gates-MacGinitie and the Shaw-Hiehle.

Table 18 presents the achievement gains for the ESAA Special Compensatory reading students. Table 19 presents the achievement gains for the ESAA Special Compensatory math students, and Table 20 presents the achievement gains for the bilingual students.

Examination of these tables reveals that:

1. Students enrolled in the ESAA Special Compensatory reading program at the participating schools scored significantly higher on the posttest than they did on the pretest in both vocabulary and reading comprehension on both the ITBS and Gates-MacGinitie.

   The gains on the ITBS Vocabulary Subtest ranged from 4 months for the fourth grade to 9 months for the sixth grade. The gains on the ITBS Reading Comprehension Subtest ranged from 6 months for the fourth and fifth grades to 1 year for the sixth grade.

   The gains on the Gates Vocabulary Subtest ranged from 2 months for the fourth grade to 6 months for the fifth and sixth grades. The gains on the Gates Reading Comprehension Subtest ranged from 2 months for the fourth grade to 5 months for the fifth grade.

2. Students enrolled in the ESAA Special Compensatory mathematics program at the participating schools scored significantly higher on the posttest than they did on the pretest on both the ITBS

Table 18

Mean Pretest and Posttest Grade Equivalent Scores
and Gain Scores for ESAA
Special Compensatory Reading Students

		Vocabulary			Reading Comprehension		
Grade	N	Pretest	Posttest	Gain	Pretest	Posttest	Gain
				ITBS			
4	215	2.2	2.6	0.4*	2.2	2.8	0.6*
5	175	2.4	3.0	0.6*	2.6	3.2	0.6*
6	224	2.8	3.7	0.9*	2.8	3.8	1.0*
				Gates-MacGinitie			
4	215	1.9	2.1	0.2*	1.8	2.0	0.2*
5	175	2.2	2.8	0.6*	2.1	2.6	0.5*
6	224	2.8	3.4	0.6*	2.6	3.0	0.4*

Note. Statistics were computed for students who took both the pretest and posttest. The difference between the tabled posttest and pretest values may not equal the tabled gain scores because of rounding error. The pretest-posttest interval was 12 months for the ITBS and 7 months for the Gates-MacGinitie.

*Statistically significant at the .05 level.

Table 19

Mean Pretest and Posttest Grade Equivalent Scores and Gain Scores for ESAA Special Compensatory Math Students

	ITBS Problem Solving				Shaw-Hiehle				
Grade	N	Pretest	Posttest	Gain	Test Level	N	Pretest	Posttest	Gain
4	215	2.3	2.8	0.5*	3-4	84	2.7	3.3	0.6*
5	175	2.4	3.2	0.9*	5-6	75	3.5	4.0	0.5*
6	224	2.9	3.9	1.0*	5-6	102	4.2	4.7	0.5*

Note. Statistics were computed only for students who took both the pre- and posttests. Differences between tabled pre- and posttest scores may not be equal to the tabled gain scores because of rounding error. The pretest-posttest time interval for the ITBS was 12 months. The pretest-posttest time interval for the Shaw-Hiehle was 12 months for the fourth- and seventh-graders and 8 months for the fifth-graders.

*Statistically significant at the .05 level.

Table 20

Mean Pretest and Posttest ITBS Grade Equivalent Scores and Gain Scores for ESAA Special Compensatory Bilingual Students

		Vocabulary			Reading Comprehension		
Grade	N	Pretest	Posttest	Gain	Pretest	Posttest	Gain
4	15	1.3	2.9	1.6*	1.5	2.9	1.5*
5	14	2.0	2.7	0.7	2.1	2.9	0.9
6	11	2.3	3.4	1.0	2.5	3.3	0.7

Note. Statistics were computed only for students who took both pre- and posttest. Differences between tabled pre- and posttest scores may not be equal to the tabled gain scores because of rounding error. Grade equivalent scores are shown. The pretest-posttest interval was 12 months.

*Statistically significant at the .05 level.

Problem Solving Subtest and the Shaw-Hienle. The gains on the ITBS ranged from 5 months for the fourth grade to 1 year for the sixth grade. The gains on the Shaw-Hiehle ranged from 6 months for the fourth grade to 5 months for the fifth and sixth grades.

3. Only the fourth-grade students enrolled in the ESAA Special Compensatory bilingual program at Lakewood scored significantly higher on the posttest than they did on the pretest on both the Vocabulary and Reading Comprehension Subtests of the ITBS. The gains in vocabulary ranged from 7 months for the fifth grade to 1.6 years for the fourth grade.

   The gains in reading comprehension ranged from 7 months for the sixth grade to 1.5 years for the fourth grade.

To investigate the practical significance of the pre- and posttest gains, the actual performance on the posttest was compared to the projected posttest performance (see Tables 21, 22, and 23).

Examination of these tables reveals that:

1. The reading students in the fifth and sixth grades scored significantly higher on the Vocabulary Subtest of the Gates-MacGinitie than would have been expected under a nontreatment condition. The fourth-grade projected mean was significantly higher than the actual posttest mean. Only the fifth-grade students scored significantly higher on reading comprehension than would have been expected under a nontreatment condition.

2. None of the math students scored significantly higher on the Shaw-Hiehle posttest than would have been expected under a nontreatment condition.

3. Only the fourth-grade bilingual students scored significantly higher on the Vocabulary and Reading Comprehension Subtests of the ITBS than would have been expected under a nontreatment condition.

Private Non-Profit Program

A portion of the Basic and Pilot Grant funds were apportioned to the Catholic Diocese of Dallas. The funds were used to develop a program which was designed to provide remedial assistance in reading and mathematics to students functioning below grade placement. There were

Table 21

Comparisons Between Projected and Actual Posttest Mean Grade Equivalent Scores for ESAA Special Compensatory Reading Students on the Gates-MacGinitie Test

		Vocabulary			Reading Comprehension		
Grade	N	Projected	Actual	Discrepancy	Projected	Actual	Discrepancy
4	83	2.2	2.1	-0.1*	2.1	2.0	0.1
5	97	2.5	2.8	0.3*	2.4	2.6	0.2*
6	115	3.2	3.4	0.3*	2.9	3.0	0.1

Note. Means presented are for students who took both pre- and posttest. Differences between tabled projected and actual posttest scores may not be equal to the tabled discrepancy score because of rounding error. Grade equivalent scores are shown. The pretest-posttest interval was 7 months.

*Statistically significant at the .05 level.

Table 22

Comparisons Between Projected and Actual Posttest Means for ESAA Special Compensatory Math Students on the Shaw-Hiehle

Grade	N	Test Level	Projected	Actual	Discrepancy
4	89	3-4	3.3	3.3	0.0
5	75	5-6	4.0	4.0	0.0
6	102	5-6	4.9	4.7	-0.2

Note. Means presented are for students who took both pre- and posttest. Differences between tabled projected and actual posttest scores may not be equal to the tabled discrepancy score because of rounding error. Grade equivalent scores are shown. The pretest-posttest interval was 7 months.

Table 23

Comparisons Between Projected and Actual Grade Equivalent Posttest Means for ESAA Special Compensatory Bilingual Students on the ITBS

		Vocabulary			Reading Comprehension		
Grade	N	Projected	Actual	Discrepancy	Projected	Actual	Discrepancy
4	15	1.7	2.9	1.2*	1.8	2.9	1.0*
5	14	2.4	2.7	0.3	2.5	2.9	0.4
6	11	2.7	3.4	0.6	3.0	3.3	0.3

Note. Means presented are for students who took both pre- and posttest. Differences between tabled projected and actual posttest scores may not be equal to the tabled discrepancy score because of rounding error. The pretest-posttest interval was 12 months.

*Statistically significant at the .05 level.

eleven grade 4-8 private non-profit (PNP) schools obtaining funds through these ESAA Grants. There were three reading resource teachers and two mathematics resource teachers involved in implementing the supplemental reading and mathematics programs. The remedial assistance was provided in a tutoring program using teacher aides and the resource teachers to improve the reading and mathematics skills of the participating students. The product evaluation was designed to determine the extent of students' gain on the ITBS.

The three reading resource teachers and the two math resource teachers were on staff at the beginning of the school year. There were ten reading aides who were located at eight schools. Efforts were made to find aides for the remaining three schools (St. Peter, St. Monica, and St. Mary of Carmel), but the results were negative. There were no math aides. The staff functioned as specified in the proposal.

Two types of analyses were performed to determine the statistical and practical significance of the gains made by the students in the reading and mathematics programs. The first analysis was a simple comparison of the pre- and posttest means of selected tests. The Vocabulary and Reading Comprehension Subtests of the ITBS, and the Gates MacGinitie were used to analyze the gains made by the reading students. Scores on the Mathematics Subtest of the ITBS were used to analyze the gains made by the mathematics students. The second analysis involved the comparison of the actual posttest mean to the projected posttest mean.

The results of the pretest-posttest analyses are presented in Table 24 by test and by grade. These results indicate that the gains from

Table 24

Mean Pretest and Posttest Grade Equivalent Scores
and Gain Scores for Selected Subtests of the
Iowa Tests of Basic Skills (ITBS) and the
Gates-MacGinitie Reading Tests (GMRT)

Grade	N	Pretest	Posttest	Gain	Pretest	Posttest	Gain
			GMRT				
			Vocabulary			Reading Comprehension	
4	62	3.7	4.4	.7*	3.2	3.8	.5*
5	64	4.6	5.3	.7*	4.3	5.0	.8*
6	61	5.4	6.1	.7*	4.8	5.9	1.1*
7	135	6.2	6.8	.5*	6.0	6.8	.8*
8	92	6.9	7.4	.4*	6.4	7.5	1.0*
			ITBS				
			Vocabulary			Reading Comprehension	
4	67	3.5	4.3	.8*	3.6	4.3	.8*
5	73	4.5	5.2	.8*	4.5	5.0	.5*
6	67	5.0	5.9	.9*	5.1	5.7	.6*
7	142	6.0	7.0	1.0*	5.6	6.7	1.1*
8	107	6.9	7.5	.6*	6.6	7.6	1.0*
			Mathematics				
4	67	3.5	4.2	.7*			
5	73	4.3	4.8	.5*			
6	67	5.1	6.0	.8*			
7	142	6.1	6.9	.7*			
8	107	6.7	7.6	.8*			

Note. Due to rounding error the tabled gains may not be exactly equal to the differences between the tabled posttest and pretest means.

*Statistically significant at the .05 level.

pretest to posttest were statistically significant for all grades on all of the tests of interest. Gains in vocabulary ranged from .4 to .7 grade equivalent on the Gates-MacGinitie and from .6 to 1.0 grade equivalent for the ITBS. Gains in reading comprehension ranged from .5 to 1.0 on the Gates and from .5 to 1.1 on the ITBS. Gains in mathematics ranged from .5 to .9 on the ITBS.

To examine the practical significance of the pretest-posttest gains the actual posttest means were compared to projected posttest means. The results for the various tests are reported in Table 25.

The differences between actual posttest and projected posttest can be divided into three categories. The first category is the one in which the differences were not statistically significant. That is, the students' gains were in line with what would have been expected under a no treatment (no ESAA) condition. This was the case for the ITBS for grades 4, 5, 6, and 7 in vocabulary, grades 4 and 8 in reading comprehension, and grades 4, 6, and 8 in mathematics. Again, it should be noted that the projected scores are derived under the assumption that students will continue to gain at the same rate as they were gaining at the pretest time. This assumption is somewhat stringent for remedial students who tend to gain at slower rates as time progresses. Therefore, the nonsignificant differences should not be viewed as negative programmatic outcomes.

However, in five cases on the ITBS the difference between actual posttest and projected posttest scores were statistically significant and in the direction indicating that growth was not what should be anticipated. The eighth-grade vocabulary scores, the fifth- and

Table 25

Means for the Actual Posttest and Projected Posttest Grade Equivalent Scores and the Differences Between the Actual and Projected Scores

Grade	N	Actual	Projected	Difference	Actual	Projected	Difference
				GMRT			
			Vocabulary			Reading Comprehension	
4	62	4.4	4.3	.1	3.8	3.8	.0
5	64	5.3	5.2	.1	5.0	4.8	.2
6	61	6.1	6.1	.1	5.9	5.3	.6*
7	135	6.8	6.8	-.1	6.8	6.6	.2*
8	92	7.4	7.5	-.2	7.5	7.1	.4*
				ITBS			
			Vocabulary			Reading Comprehension	
4	67	4.3	4.5	-.2	4.3	4.5	-.2
5	73	5.2	5.4	-.2	5.0	5.5	-.4*
6	67	5.9	5.8	.1	5.7	6.0	-.2*
7	142	7.0	6.9	.1	6.7	6.4	.3*
8	107	7.5	7.8	-.3*	7.6	7.5	.1
			Mathematics				
4	67	4.2	4.4	-.2			
5	73	4.8	5.2	-.4*			
6	67	6.0	6.0	.8			
7	142	6.9	7.0	-.2*			
8	107	7.6	7.6	.0			

Note. Due to rounding error the tabled gains may not be exactly equal to the differences between the tabled posttest and pretest means.

*Statistically significant at tne .05 level.

sixth-grade reading scores, and the fifth- and seventh-grade mathematics scores were significantly lower than projected. The seventh-grade reading scores were significantly higher than would have been projected.

In summary, although all of the pretest-posttest comparisons indicated significant differences, the actual posttest versus projected posttest comparisons indicated that the rate of growth was not as high as projected in five cases, was as high as projected in nine cases, and was higher than projected in one case.

Magnet School Planning Program

The main thrust of the Magnet School Planning Program was the planning of a Science and Technology Magnet High School. During the 1978-79 school year the project staff was to (a) establish the parameters of the Science and Technology Magnet High School, (i.e., the staff was to develop program and course descriptions), (b) develop a complete set of educational specifications for the structure to house the Science and Technology Magnet, (c) develop a three year forecast of funding requirements, (d) employ the entire staff for the Magnet School Planning Project, (e) review the history of the 17 magnet schools, (f) conduct a review and analysis of the literature regarding magnet school design, and (g) develop a comprehensive model for magnet school implementation.

The funding period for this program was extended until October 1979 because of a delay in the funding at the beginning of the program period. All the objectives of the program have been attained and are contained in the final report prepared by program management.

Administration and Evaluation Components

The ESAA Evaluation staff was responsible for obtaining and reporting information regarding the attainment of the ESAA objectives in an understandable and useful manner. The Administrative component staff was responsible for providing continuous assistance to project personnel in the planning, implementation and management of the ESAA components.

The Evaluation team performed classroom observations and collected questionnaires from project personnel during the months of October, November, April, and May. Process reports were written and disseminated during the months of November, December, and January. Second process reports were written and disseminated during the months of May, June, and July 1979. Six DISD administrators were contacted and asked their perceptions of the usefulness of the process reports. All six indicated that the reports were useful to them.

The program managers were given technical assistance in writing the 1979-80 proposal. They indicated that the information supplied was adequate.

The project managers and three teachers sought assistance of a technical nature other than that required to write the 1979-80 proposal. These two managers and all three teachers indicated that the information supplied by the Evaluation team was useful.

The Administration team consisted of the Project Coordinator, a Senior Analyst, a Secretary, and an Accountant. All program managers indicated that the Administration team had provided excellent assistance in all of the areas required. Each had sought assistance on numerous occasions, and each indicated that the assistance provided was more than adequate.

The ESAA Advisory Committee members were asked to express their opinion of the Administration staff's attempts to include students, teachers, and parents in the decision-making process. The general opinion was that the Administration staff had attempted to do so. There were student members on the Advisory Committee.

The Project Director had developed a management plan and had attempted to abide by the plan throughout the 1978-79 school year.

Summary and Conclusions

The Federal Government agreed to provide funds to the DISD in accordance with the Emergency School Aid Act. These funds were to be used to meet the needs incident to the elimination of minority group segregation, and to aid school children in overcoming the educational disadvantages of minority group isolation. During the 1978-79 school year the ESAA funds were used to operate four grants programs: Basic Grants (eight projects), Pilot Project, Special Compensatory Project, and Magnet School Planning Project. Generally speaking, the purpose of the evaluation was to determine the degree of program implementation and to monitor (where appropriate) student academic performance. The development of academic skills was analyzed in two ways. First, the statistical significance of the usual and expected growth made by students during the course of a school year was determined with a pretest-posttest analysis. The second type of analysis was designed to assess whether or not participation in the program improved achievement, beyond what would be expected if there were no ESAA program. In this type of analysis, posttest scores were compared with projected posttest scores. The projected posttest scores were computed as a function of pretest score, grade placement, and length of time between pretest and posttest.

A summary of the evaluations conducted for the various ESAA programs is presented in Table 26. Since the purpose of the table is to present only the salient characteristics of the evaluations, the reader should refer to the discussion of the evaluations contained earlier in this report when more detailed information is desired.

Inspection of the table shows that parts of the overall ESAA program were successful in bringing about positive changes in the children's academic growth. For example, gains above what would be expected if the ESAA program did not exist were recorded for a high proportion of students in the grade 4-6 and grade 7-8 Basic Reading and Mathematics programs. Also important, but less dramatic, were the gains recorded by students in the Basic Bilingual and Special Compensatory programs.

Closer inspection and comparison of the columns containing information relative to the degree of implementation and students' academic growth points out what should be obvious. That is, those programs that were staffed and started early in the school year and that encountered few implementation problems also recorded the highest student achievement gains.

The following conclusions can be made with regard to the evaluation of the ESAA funded programs.

1. Implementation of the content area programs (reading in the social science area, reading in the mathematics area, and the life skills program) would have been facilitated by clearer

Table 26

Summary of the Evaluations of the Programs
Funded by the Emergency School Aid Act

Project	Subject Area(s) and Schools	Degree of Implementation	Results of Pre-Posttest Analyses	Results of Actual Posttest versus Projected Posttest Analyses
Basic Project Grade 4-6	Reading and Mathematics in 27 schools	Generally high, three mathematics aides were not staffed and not all schools participated in the reading in the content area program	Statistically significant achievement gains were observed at all grades and subject areas.	Projected posttest scores were higher than expected for 6 of 9 grade level and subject area comparisons.
Basic Project Grade 7-8	Reading and Mathematics in 17 schools	There was a high level of program implementation.	Statistically significant achievement gains were observed at all grades and subject areas.	Projected posttest scores were higher than expected for 6 of 10 grade level and subject area comparisons
Basic Project Magnet High Schools	Reading in the 6 Magnet High Schools	Some scheduling problems were observed at 2 schools.	No statistically significant gains observed on standardized tests.	No statistically significant differences were observed.
Basic Project Bilingual Component	Eight grade 4-6 schools	Some deviations from the proposal and some staffing problems were noted.	Statistically significant achievement gains were observed at all grades on reading comprehension and vocabulary.	Projected posttest scores were higher than expected for 4 of 6 comparisons.
Basic Project Human Relations/ Guidance Component	13 counselors operating in 27 schools	There was a high level of program implementation.	Pretest to posttest changes indicated counselors improved their knowledge of "helping skills."	Not Applicable
Basic Project Cultural Crossroads Educational Center (CCEC)	Students from 10 intermediate schools	There was a low level of implementation with start-up difficulties and late hiring of staff. However, some activities did occur late in the school year.	Some program-specific tests were developed and pilot tested. Test revisions were deemed necessary	Not Applicable

Table 26 (continued)

Project	Subject Area(s) and Schools	Degree of Implementation	Results of Pre-Posttest Analyses	Results of Actual Posttest versus Projected Posttest Analyses
Special Compensatory Project	Reading, mathematics, staff development, community involvement, multicultural social studies, and bilingual education in 5 designated non-Title-I schools	Generally there was a low level of implementation. The Project was implemented late in the school year, e.g., staffing began in January 1979. Implementation problems were observed in all program areas.	Statistically significant reading and mathematics achievement gains were observed at all grade levels for reading and mathematics students, respectively. Also, statistically significant reading and vocabulary achievement gains were observed for grade 4 bilingual students.	Projected posttest scores were higher than expected for 5 of 15 comparisons in reading comprehension, vocabulary, and mathematics
Private Non-Profit Program	Reading and mathematics programs in eleven grade 4-8 schools in the Catholic Diocese of Dallas	The level of implementation was generally high; some paraprofessionals were not hired.	Statistically significant achievement was observed at all grade levels and subject areas.	Projected posttest scores were higher than expected for 3 of 25 comparisons and lower than expected for 4 of 25 comparisons.
Magnet School Planning Program	The Objectives of this planning program were met.			
Administration and Evaluation Components	The Objectives of these service components were met.			

Table 26 (continued)

Project	Subject Area(s) and Schools	Degree of Implementation	Results of Pre-Posttest Analyses	Results of Actual Posttest versus Projected Posttest Analyses
Pilot Project East Oak Cliff	Grades 4-6 reading and mathematics; grades 7-12 reading; 2 staff development programs	The level of program implementation varied.		
		Reading	Reading	Reading
		The reading program had some start-up and staffing problems.	Statistically significant Achievement at nearly all grades in reading comprehension and vocabulary	Projected posttest scores were higher than expected for 3 of 16 comparisons and lower than expected for 3 of 16 comparisons. No differences were observed on the remaining 10 comparisons
		Mathematics		
		No mathematics resource or supplementary teachers were hired. The mathematics program was run by Title-I Instructional Resource Teachers, Aides, and classroom teachers.	Due to the low level of implementation data were not collected.	
		Staff Development		
		There was a high level of program implementation.	Not Applicable	Not Applicable

descriptions of the goals of the programs. Further, the activities expected of the resource and classroom teachers need to be outlined and explained if the programs are to be implemented in the future. Finally, the tests used for the evaluation of the effects of the programs need to be revised and lengthened, and new tests need to be developed to be administered to the students who are reading below the third-grade level.

2. One obvious problem for 1978-79 was the lack of mathematics resource teachers in the Pilot program. The program administrators were unable to fill the ten positions that were funded, although they attempted to do so. The positive results of the Basic mathematics programs indicate that filling these positions is of utmost importance to the District for the 1979-80 school year.

3. The reading results for high school students indicate that a satisfactory method for teaching remedial high school students has not been identified. Part of the problem in the Magnet schools is that the students at the Human Services and the Law Magnets attend remedial reading classes at their own discretion, and the time that they can allocate to reading must be taken from other courses. This results in low and haphazard attendance. A remedy for this situation is not apparent, but it would seem that students attending these two institutions would benefit from the program if attendance in a reading class were required. However, requiring attendance will not alleviate the problem and the search for better methods must be continued.

4. The resource and classroom teachers indicated that too much testing was required. The teachers felt that the amount of testing detracted from the students' performance for two reasons. The first reason was that the students did not take the tests seriously. The second reason was that for the severely remedial students most of the tests were too hard and thus added to these students' negative self-image. System-wide testing required certain achievement tests, and these should be used for program evaluation. The Shaw-Hiehle and the Gates-MacGinitie should not be required for program evaluation. These two tests should be used for diagnostic tests at the resource teacher's discretion.

References

Melican, J. *Evaluation of the 1978-79 Emergency School Aid Act Basic Project, Cultural Crossroads Education* (Report No. EE79-319-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Melican, J. *Evaluation of the 1978-79 Emergency School Aid Act Basic Project, Evaluation and Administration Components* (Report No. EE79-314-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Melican, J. *Evaluation of the 1978-79 Emergency School Aid Act in the Private Non-Profit Schools* (Report No. EE79-318-31-20). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Melican, J., and Miller, J. *Evaluation of the Emergency School Aid Act, 1978-79 Basic Project* (Report No. EE79-315-31-20). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Melican, J., and Wells, B. *Evaluation of the 1978-79 Emergency School Aid Act Basic Project, Magnet Schools* (Report No. EE79-312-31-01). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Murray, W. R. *Evaluation of the Emergency School Aid Act, 1978-79, Magnet School Planning Project* (Report No. EE79-316-31-24). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Patton, D., and Melican, J. *Evaluation of the 1978-79 Emergency School Aid Act Basic Project: Guidance and Counseling Program and Bilingual Program* (Report No. EE79-313-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Patton, D., and Melican J. *Evaluation of the 1978-79 Emergency School Aid Act Special Compensatory Project* (Report No. EE79-317-31-27). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Weckerly, D., and Melican, J. *Evaluation of the 1978-79 Emergency School Aid Act Basic Project, 4-6 Schools* (Report No. EE79-310-31-20). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Wells, B., and Melican, J. *Evaluation of the 1978-79 Emergency School Aid Act Basic Project, 7-8 Schools* (Report No. EE79-311-31-20). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Appendix

Schools Participating in Programs Funded by the Emergency School Aid Act

Schools	Basic Reading	Basic Mathematics	Basic Bilingual	Human Relations/ Guidance	Cultural Crossroads Education Center	Pilot Project- Reading	Pilot Project- Mathematics	Special Compensatory	Catholic Diocese of Dallas
J. Q. Adams	X	X		X					
Bayles	X	X		X				X	
A. W. Blanton	X	X		X					
D. G. Burnet	X	X	X	X	X				
R. C. Burleson	X	X		X	X				
F. P. Caillet	X	X	X	X	X				
S. S. Conner	X	X		X					
J. C. Dorsey	X	X	X	X	X				
S. C. Foster	X	X		X	X				
N. Hawthorne	X	X		X					
L. L. Hotchkiss	X	X	X	X	X				
J. R. Ireland	X	X		X					
Lakewood	X	X		X				X	
H. W. Longfellow	X	X		X					
H. Marcus	X	X	X	X	X				
Preston Hollow	X	X	X	X	X				
J. J. Pershing	X	X		X					
M. T. Reilly	X	X		X				X	
Reinhardt	X	X		X				X	
D. D. Rogers	X	X	X	X	X				
A. Sanger	X	X		X				X	
San Jacinto	X	X		X					
G. B. Truett	X	X		X					
Walnut Hill	X	X		X					
S. Williams	X	X		X					
E. Rowe	X	X	X	X	X				
Rylie	X	X		X					

Appendix (Cont'd.)

Schools	Basic Reading	Basic Mathematics	Basic Bilingual	Human Relations/ Guidance	Cultural Crossroads Education Center	Pilot Project-Reading	Pilot Project-Mathematics	Special Compensatory	Catholic Diocese of Dallas
W. H. Atwell	X	X							
T. W. Browne	X	X							
E. H. Cary	X	X							
E. B. Comstock	X	X							
F. F. Florence	X	X							
W. H. Gaston	X	X							
W. E. Greiner	X	X							
R. T. Hill	X	X							
J. B. Hood	X	X							
D. A. Hulcy	X	X							
J. L. Long	X	X							
T. C. Marsh	X	X							
T. J. Rusk	X	X							
Seagoville	X	X							
A. W. Spence	X	X							
L. V. Stockard	X	X							
E. D. Walker	X	X							
J. N. Bryan						X	X		
H. Budd						X	X		
W. W. Bushman						X	X		
N. W. Harllee						X	X		
A. S. Johnston						X	X		
Lisbon						X	X		
T. L. Marsalis						X	X		
W. B. Miller						X			
R. Q. Mills						X	X		
J. N. Ervin						X			
C. Oliver						X			
C. P. Russell						X			
R. L. Thornton						X	X		

Appendix (Cont'd.)

Schools	Basic Reading	Basic Mathematics	Basic Bilingual	Human Relations/ Guidance	Cultural Crossroads Education Center	Pilot Project-Reading	Pilot Project-Mathematics	Special Compensatory	Catholic Diocese of Dallas
W. Young						X	X		
M. Jackson						X			
O. W. Holmes						X			
H. tone						X			
Boude Storey						X			
F. D. Roosevelt						X			
A. Maceo Smith						X			
South Oak Cliff						X			
Bishop Dunne									X
Holy Trinity									X
John XXIII									X
Our Lady of Perpetual Help									X
St. Anthony									X
St. Augustine									X
St. Cecilia									X
St. Elizabeth									X
St. Mary of Carmel									X
St. Monica									X
St. Peter									X

RE79-808-61-30

An Interpretative Analysis of the Results of the Implementation of the 1978-79 Title IV-C and Title VII Programs

Allen W. Scott, Fonda Roberson, Joseph Gonzales

During the 1978-79 school year, the State of Texas awarded $961,781 in ESEA Title IV-C and Title VII funds to the Dallas Independent School District (DISD) for the operation of 16 separate projects. Figure 1 represents the titles of those projects and the budgets for each.

In order to be funded under Title IV-C or Title VII, projects had to be innovative, demonstrational, exemplary, or some combination of these. If a project were designed to be innovative, then it had to introduce a new idea or method. A demonstrational project had to include a process or a means of showing something clearly by reasoning or evidence. Finally, an exemplary project had to serve as a model or a pattern. Evaluations of Title IV-C and Title VII programs were based, therefore, on how well each project proved to be innovative, demonstrational, or exemplary.

The reports which cover the Title IV-C and Title VII projects are listed in Figure 1. This report is organized into five areas:

1. Additional, Supplementary, or Replacement Curriculum
2. Guides and Procedures
3. Training and Experimental Models
4. Services
5. Needs Assessment and Planning

Project	Budgeted
Title IV-C:	
Career Education Curriculum for the Hearing Impaired, K-12	$ 52,520
Health Education Skills for Living	41,010
Laboratory in Creative Arts	58,457
Supplemental Instructional System for the Bilingual Education Program	66,947
Academy Instructional Program of Resource Materials and Media	45,000
Vanguard Instructional Program of Resource Materials and Media	46,863
Parent Education Program	52,420
Dissemination and Implementation of Alternative Modes of Discipline	34,941
Performance Level Administrator Training for Optimum Resource Management (PLATFORM)	27,620
Program for Challenging the Gifted Child	71,217
Assessment and Accountability for Elementary Guidance in Dallas	59,514
K-3 Coordinated Curriculum Model	66,153
Instructional Accountability	67,336
Living Materials Implementation Model	60,373
Occupational and Prevocational Training and Instructional Options for Special Education Students	32,961
TOTAL TITLE IV-C	783,332
Title VII:	
Bilingual Education Model Demonstration Program	178,449
TOTAL TITLE IV-C/TITLE VII	$961,781

Figure 1. Title IV-C and VII Projects.

Additional, Supplementary, or Replacement Curriculum

Career Education Curriculum for the Hearing Impaired

Recent curriculum development in the DISD has focused on priorities established within the District by means of systematic needs assessments and "The Goals for Student Development in the DISD" as adopted by the Board of Education. There are 19 student development goals, one of which is: "Students should have skills in preparing for and entering the world of work" (Holland, IE77-071-3-7). A Title IV-C project was funded to develop Career Education Curriculum for the Hearing Impaired, K-12, consistent with this goal. The success of this innovative project was suggested by the evaluation report (Scott and Gonzales, T479-329-31-08) which indicated that a number of teacher and student texts were printed and disseminated. Teacher manuals were developed for the transportation cluster, the recreation cluster, and career awareness. High school student texts were also produced for the recreation and career awareness clusters.

The project staff provided over 150 field trips to a variety of businesses for students in grades 1-12. The evauation staff observed 25 of these trips and noted that they were well supervised. Participating students received instructions and information by a sign language specialist.

A teacher questionnaire was distributed to 36 randomly selected teachers during the week of May 14, 1979, and all questionnaires were returned by May 22. Teachers were questioned concerning the adequacy of the materials provided by project staff, whether they were able to obtain all needed materials, whether they had encountered any problems, and how they perceived the job performance of project staff. The results were generally very positive.

Some teachers offered comments concerning the program. Basically, they felt that the texts were well written and that most of the materials were well suited for the students. The teachers noted some concerns and made suggestions for improvements. They indicated that photographs rather than drawings would be more appropriate for high school texts. Teachers also indicated that lower level materials were needed along with more variety in the materials. They also wanted a more organized and supervised work activity center along with summer workshops to help teachers adjust. Finally, teachers wanted more time available for on-site visitation to other facilities.

The project staff did encounter some problems and setbacks during the year. The office space for the project was not provided until November 1978. The temporary quarters were overcrowded and without telephone service. Also, some staff resignations caused minor slippage in the completion of activities. However, none of these problems affected the final outcome of the project.

Health Education Skills for Living

Another high-ranking District goal is that "students should know about (a) the need for personal cleanliness, (b) the need to eat a properly balanced meal, (c) the need for physical exercise, and (d) dangers to health from drugs, tobacco, poison and other harmful materials" (Chadbourn, IE77-071-3-4). In keeping with this goal, a

Title IV-C project, Health Education Skills for Living, was funded to develop a comprehensive sequential teaching packet necessary for coordinating a non-repetitive, motivating health education program. The evaluation results for this project were indicated in the report (Scott and Gonzales, T479-327-31-04). The project staff wrote, pilot tested and printed 10 new health units for grades 5, 7, and 9. This new curriculum was then revised and printed. Out-of-district sources who utilized the project materials were the St. Marks School and the Ursuline Academy, and numerous requests for the materials were received from all over Texas, Arkansas, Louisiana, and Ohio. All-day health education seminars were held three times during the year, and a total of 75 teachers attended. The participants were surveyed by the evaluation staff, and it was found that the sessions were well-planned, well-organized, and well-prepared. Additionally, 60 teachers were surveyed in April 1979. Overall, the teachers gave the project a positive rating.

A total of 11 high schools and 12 middle schools were randomly selected for pre- and posttesting. Teachers were asked to administer one of three tests depending on the level they were teaching at the time of contact. The results revealed that on the 85 middle school pre-posttests, the pretest scores averaged 38% correct and the posttest scores averaged 46% correct. The first quarter high school results revealed that 43 students averaged 60% correct on the pretest and 71% correct on the posttest. The second quarter high school packet results revealed that 63 students scored 56% correct on the pretest and 65% correct on the posttest. All three differences were statistically significant.

Laboratory in Creative Arts

Another of the 19 District student development goals is "knowledge of art, music, and writings of groups different from their own group." The third project in the curriculum area is based on the need for students to gain an understanding of the arts within a cultural and historical framework and is entitled "Laboratory in Creative Arts." The program was composed of instructional packets containing interdisciplinary multicultural curriculum guides and audio-visual learning aids for students in middle and high school. Six teachers in five high schools and nine teachers in five middle schools pilot tested the program. The evaluation results for this project were indicated in the report (Scott, T479-332-31-06).

Based on project Tracking Activity Reports and examination of specified evidence of activity/objective completion, all proposed activities were completed essentially on schedule. Although minor slippage on some activities was observed, the project's outcome was not adversely affected. Classroom observations by both project staff and the project evaluator were conducted throughout pilot testing. These observations revealed a consistent decrease in management and implementation problems from the pilot test in 1977-78.

At the seventh grade level, the program was pilot tested in three parts. A pretest and posttest was administered for each part. Posttest scores for participants and comparison students were compared by analysis of covariance. Pretest scores served as the covariate. The ninth grade units were all tested as a single program. One pretest and posttest was administered. The data indicated that program participants scored significantly higher than comparison students in the same schools on tests designed to measure student mastery of major program objectives.

Participating teachers were also surveyed to determine the degree of program impact. There was no consensus concerning student reaction to the program. There was, however, positive feedback concerning preservice staff development and the visual art and dance activities. Teachers tended to be most critical of the music and drama activities, which were found to be either insufficiently motivating for the age group or too sophisticated for the middle school level. However, the overall program ratings were positive. Eight teachers expressed a desire to teach the program again and three declined.

Supplemental Instructional System for the Bilingual Education Program

This project was funded to continue to design test a computerized testing capability to rapidly and accurately determine aural and reading skills in the dominant and second languages, to design test an individualized language instructional system, to provide a reporting system that would allow coordination with the classroom instructional program, and to provide for evaluation and selected improvements in the system. New objectives for the 1978-79 year were to expand the microprocessor-based student station to include bilingual instructon in mathematics, design testing of the multiple-terminal time-sharing system for supplemental language instruction in Spanish and English, and to explore the recently developed, lower-cost audio response system capabilities with the current system as an alternative to the Votrax voice synthesizers for special application areas. The success of this project was indicated in the evaluation report (Scott, T479-333-31-09).

The project was implemented essentially as proposed. The first objective called for the design testing of a computerized capability to determine aural and reading skills in the dominant and second languages. No such testing capability was available, but PAL tests and diagnostic tests were administered and the results were included in the students' computerized longitudinal files.

Supplementary second-year curriculum was written and encoded, and Votrax text was created to meet the needs of all but the most advanced students. Minor revisions were to continue throughout the summer.

The classroom management and reporting systems were revised. Software enhancements were made to increase the amount of data kept on each student. Report programs were written and/or modified to provide more extensive analysis of student performance.

The project expanded the capabilities of the microprocessor-based student stations to include bilingual instruction in mathematics. Three microcomputer-based math strands were translated into Spanish and were awaiting review. Students used the English version of six of the math strands on a TRS-80 microcomputer at the Gabe Allen site for three months, but, due to the brief exposure time, product evaluation data were not collected.

Delays in receiving equipment precluded an extensive exploration of lower-cost audio response system capabilities with the current system for special application areas during the project year. Equipment with a high potential for providing both improved quality and reduced cost was acquired late in the project year. Technical evaluation was to be conducted during the summer.

The project did encounter problems that limited progress on some activities. The project manager and the technical staff resigned between January and March. Although they were replaced, the production schedule was disrupted. The new staff was hampered by inadequate documentation of software. Many hours were spent in deciphering code.

The reporting of cumulative data was interrupted during the staff transition, and pupil performance data on some lessons were lost. Most problems had been resolved by the end of the project year. Other problems were still being analyzed and should have been resolved by the end of the summer in time to meet the needs of students for the 1979-80 school year.

The impact of the computerized Supplemental Instructional System for the Bilingual Education Program was examined in four ways. First, the performance of students on each lesson of each of the four programs was analyzed. Second, the performance of participants on a second-year mastery test was analyzed to determine the extent of mastery of major objectives of the program. Third, the performance of second-grade participating students on the Iowa Tests of Basic Skills (ITBS) was compared with the second-grade performance of 1978-79 third graders in the same school who received the same instructional program without the supplemental program. And finally, the posttest performance of program participants on Level 1 of the Spanish Interamerican Reading Series was compared with other District students of similar background and language dominance.

In examining the performance of students on each program lesson, the percentage of items correctly answered by at least 75% of the students was computed. It should be noted that lessons varied in both the number of items and the number of students utilizing them. Lessons for which inadequate or questionable data were available were deleted from the computation. At least 75% of the students correctly answered at least 75% of the items on 94% of the Region One Literacy Lessons (ROLL) Spanish lessons, 67% of the ROLL English lessons, 83% of the Bilingual Oral Language and Reading (BOLAR) Spanish lessons, and 74% of the BOLAR English lessons for which data were available.

The project curriculum writers constructed a mastery posttest covering 14 Spanish and 10 English skill areas emphasized by one or both of the reading programs. This test was administered to all of the second-grade BOLAR and ROLL participants at Gabe Allen. Students were assumed to have mastered a skill area if they correctly answered at least 75% of the items on that skill.

At least 75% of the BOLAR students mastered 9 of the 24 skill areas. At least 75% of the ROLL participants mastered 15 skill areas. More BOLAR students than ROLL students mastered five of the skill areas while more ROLL students than BOLAR students mastered the remaining 19 skill areas.

A two-way analysis of variance was used to simultaneously compare the ITBS scores of the second-grade BOLAR/CAI participants, the second-grade ROLL/CAI participants, the second-grade scores of 1978-79 third-grade BOLAR participants without the supplementary CAI component, and the second-grade scores of 1978-79 third-grade ROLL participants without the supplementary CAI component. The two dimensions of comparison were the reading program (BOLAR and ROLL) and the supplementary program (CAI and control).

Both the reading program and the supplementary program significantly affected the ITBS Vocabulary scores. The two-way interaction was not significant. Additionally, the data revealed that BOLAR participants scored higher than ROLL participants, and CAI participants scored higher than the control group.

The second ITBS subtest on which the four groups were compared was Word Analysis. Both the reading program and the supplementary program significantly affected the Word Analysis subtest scores. Although there was no difference in the means of the BOLAR with CAI and the ROLL with CAI, there was a distinct difference between the CAI participants and the control group. In general, the CAI participants scored higher than the controls, and the BOLAR participants scored higher than the ROLL participants.

The third and final ITBS subtest on which the four groups were compared was the Reading Comprehension subtest. The reading program effect on reading subtest scores was significant (BOLAR participants scored significantly higher than the ROLL participants), but the supplementary program effect was not. The two-way interaction approached significance but failed to reach the 0.05 level required for rejection of the null hypothesis.

To determine the impact of the program on Spanish reading skills other than those tested by the second-year mastery test, the Level 1 Spanish Interamerican Reading Series was administered to program participants and a comparison group from Sidney Lanier Elementary School. The Lanier students had not participated in the BOLAR program, the ROLL program, nor the CAI supplemental program. They were, however, of similar backgrounds and language dominance. Performance on both subtests, Vocabulary and Reading Comprehension, was compared. The difference in Interamerican Spanish Reading Comprehension scores favored the BOLAR participants with the CAI supplement.

In summary, BOLAR participants scored significantly higher than ROLL participants on all three subtests of the ITBS (Vocabulary, Word Analysis, and Reading Comprehension). CAI participants scored significantly higher than controls on the Vocabulary and Word Analysis subtests. Also, BOLAR participants with the CAI supplement scored higher than ROLL participants with the CAI supplement and a comparison group on the Interamerican Spanish Reading Comprehension subtest. However, ROLL participants with the CAI supplement scored higher than BOLAR participants receiving the CAI supplement on the second-year mastery test developed by project curriculum writers.

Vanguard and Academy Instructional Programs

Two additional projects funded under Title IV-C in the curriculum areas were the Vanguard and Academy Instructional Programs of Media and Resource Materials. These projects were funded to describe organizational plans for the Mark Twain Fundamental Vanguard and the William H. Atwell Fundamental Academy that would be consistent with each school's philosophy. Project staff selected and trained qualified teachers to implement the program. Additionally, project staff was to implement a Citizenship Education Program for both schools. The evaluation results are contained in the evaluation reports (Scott and Roberson, T479-323-31-30; Scott and Roberson, T479-322-31-30).

The reports indicated that all program activities were conducted as specified in the management plan. A Fundamental Education Manual was developed and printed on schedule. Orientation sessions for new teachers and staff development sessions were conducted as planned. As a result of 55 classroom observations made by evaluation staff, it was determined that the school staff adhered to the objectives and the intent of the program. Good behavior and citizenship were stressed in all observed classes. Additionally, basic skills were reinforced in all observed classroom situations. In order to obtain product information for the program evaluation, students were pretested and posttested with the Iowa Tests of Basic Skills.

Participating students were also pre- and posttested to show the degree of impact of the Citizenship Education Program. The 25-item test was developed jointly by the project staff and the evaluation staff. The William Atwell pretest yielded a mean of 17.75 (raw score) while the posttest showed a mean of 19.11 (raw score). The data from Mark Twain yielded a pretest mean of 16.32 (raw score) while the posttest showed a mean of 19.35 (raw score).

The scores of the participating students on the Iowa Tests of Basic Skills were also examined. The Vanguard scores were examined for spring 1978 to spring 1979, and the Academy scores were examined for fall 1978 to spring 1979. The Vanguard students showed a noticeable gain in percentile rank from the pretest to the posttest in all areas with the exception of reading comprehension. The reading percentile scores showed improvement at grades four and five, and remained constant at grade six.

The Academy students at the seventh grade level showed minimal changes in national percentile ranks in both reading and mathematics.

At the eighth grade level no change of consequence was observed in national percentile rank in reading. However, the median and third quartile scores in mathematics were substantially higher on the posttest than would be predicted from the pretest scores.

Title VII Bilingual Education

The Bilingual Education Model Demonstration Project was funded under Title VII. The Title IV-C Supplemental Instruction for the Bilingual Program involved the computer-assisted instruction portion of the Title VII program. The project was to continue the comparison of various teaching strategies. The strategies involved were the Bilingual Oral Language and Reading (BOLAR) and the Region One Literacy Language (ROLL) for the second grade and Palo Alto and Laidlaw at the third grade level. Two supplemental programs were also added, the Parent Awareness Component (PAC) and a supplementary Computer-Assisted Instruction (CAI) program. The evaluation results were indicated in the report (Scott, T779-320-31-09).

A comparison among second-grade ITBS scores revealed that BOLAR participants scored significantly higher than ROLL participants on the Vocabulary, Word Analysis, and Reading subtests. CAI participants scored significantly higher than the control group on the Vocabulary and Word Analysis subtests. No difference was found between the CAI and control group on the Reading subtest.

BOLAR participants with the CAI supplement scored significantly higher than ROLL participants with CAI on the Interamerican Spanish Reading Comprehension subtest. No significant difference was found between the two groups on the Spanish Vocabulary subtest.

The lack of comparability of the PAC participants precluded their inclusion in any of the statistical comparisons. The two schools in which the PAC supplement was implemented were quite different, both geographically and ethnically, from the school in which the CAI component was implemented. An additional limitation was the unexpectedly high student mobility in the two PAC schools. As a result, no definitive conclusions can be drawn about the PAC supplement. Data presented in the report suggest that the PAC supplement was not as successful as the CAI supplement, but the finding must be perceived as tentative at best.

Program Guides and Procedures

Parent Education Program

This program was developed to encourage parental participation in schools and the education of their children. The evaluation results were presented in the report (Scott and Roberson, T479-325-31-11).

The report indicated that the project successfully met its objectives. With the exception of one minor variation, the program activities were implemented as specified. Three parental involvement strategies were developed for both participating schools, Fred Florence and Thomas Marsh. Additionally, at least 25% of the targeted population participated in at least one of the strategies at each school.

The faculties of Fred Florence and Thomas Marsh were surveyed to determine their perceptions of the program. The Florence faculty returned 21 (42%) of 50 surveys. All respondents indicated that they had attended Parent Education Program staff development sessions and a majority (67%) felt the sessions were useful to them in learning to work with parents. A majority (76%) also indicated that the program had had positive impact in their school's community.

The Marsh faculty returned 31 (62%) of 50 surveys. Ninety-seven percent indicated that they had attended a staff development session, and 81% responded that the sessions were useful to them in learning to work with parents.

Persons who utilized the Parent Materials Information Center (PMIC) were also surveyed. A total of 68 surveys was mailed and 23 (34%) were returned. A majority of respondents (57%) rated their parent activity very successful, 39% rated it somewhat successful, and one (4%) did not respond to the question. The PMIC staff was rated very helpful by 74% of the respondents. Additionally, 87% of the participants were able to obtain all needed materials from the PMIC.

Alternative Modes of Discipline

A second project funded in the area of program guides and procedures was the Dissemination and Implementation of Alternative Modes of Discipline. The project was to continue to operate and expand the resource center, identify and compile elementary and secondary strategies for disciplinary decision-making, offer one in-school staff development program at each secondary school, and disseminate booklets to all 20 Education Service Centers in Texas. The evaluation results are contained in the report (Scott, T479-335-31-05).

During the 1978-79 project year most project objectives were attained. The Resource Center was expanded and a list of materials available was published. A total of 155 new strategies was collected, compiled, and prepared for printing. Based on Intervention Team feedback and information received from project staff, about 80% of the District's secondary schools received staff development pertaining to the program. An intensive staff development program was conducted in two secondary schools, T. C. Marsh Middle School and W. W. Samuell High School. Project booklets and additions to the booklets were prepared for printing prior to dissemination to 20 Education Service Centers. The Alternative Strategies Program was expanded to the elementary level with the addition of over 100 elementary strategies.

Discrepancies from the proposal were limited to printing schedules and the availability of staff development time. Dissemination of final copies of printed booklets and strategies was delayed until late July or early August due to delays in printing. Demand for in-building staff development time precluded the proposed 100% level of staff development District-wide. Approximately 20% of the secondary schools did not receive staff development.

A random sample of 50% of the teachers was surveyed at both Marsh and Samuell to determine the impact of the program. Seventy-nine percent of the questionnaires were returned from Marsh and 63% were returned from Samuell. Although the majority of respondents expressed dissatisfaction with the program, a sizeable minority supported it. It was apparent that philosophical differences in dealing with discipline problems tended to affect the overall ratings of the program.

Additionally, Drug Intervention Team contact persons located in 57 District elementary and secondary schools were surveyed. These individuals rated the program very favorably as a whole. Overall, 45% rated the project excellent, 38% rated it good, 10% rated it fair, and 7% rated it poor.

Training and Experimental Models

PLATFORM

Staff development and training has been a priority of the District since 1969. The 1976 Court Order outlined certain aspects of staff development as mandatory. For these reasons, the District continually has sought innovative methods for training staff. In accordance with this priority, a Title IV-C project was funded to advertise and conduct workshops using the four instructional units developed by the project during the two previous years: Educational Renewal, Planning, Management, and Evaluation. The Performance Level Administrator Training for Optimum Resource Management (PLATFORM) project results were indicated in the evaluation report (Scott and Gonzales, T479-328-31-05).

On-site observations, monthly meetings with project staff, and examination of Management Plans and Tracking Activity Reports revealed no major variations from the stated plans of the program.

A total of 26 program participants was interviewed at the end of the final session. Seven of the participants indicated that they had attended all of the sessions and 19 said that they had not. However, all but six of the participants received the training materials. Twenty of the participants said that they would advise fellow administrators to attend the program sessions; however, only 7 of the 26 felt that the sessions were interesting. One-half of the participants felt that the materials did not contribute to their professional growth, and approximately two-thirds said that the program would not help them in solving real administrative problems.

Challenging the Gifted Child

A second Title IV-C project in this area was funded for the purpose of implementing the Program for Challenging the Gifted Child. This project continued the study of the impact of a specially equipped and staffed resource center on the intellectual achievement of selected high ability students. Only the program at Adelle Turner Elementary was included in this project. The evaluation data indicated that all activities were implemented as specified (Scott and Roberson, T479-324-31-08). New curriculum for grades 1-3 was developed as specified and new materials were disseminated to school districts across the nation.

In order to determine the impact of the project, feedback was obtained from students, parents, regular teachers, and resource teachers. Additionally, participants were pre- and posttested to determine the degree of academic growth.

Parents of participating students revealed highly positive attitudes toward the Program for Challenging the Gifted Child and teachers. All respondents indicated that the experience enriched their children's emotional and intellectual development.

Participating students also revealed positive attitudes toward the program. The majority indicated that they enjoyed the time spent in the resource room designed for the Program for Challenging the Gifted Child and expressed a desire to participate next year.

Parents, regular teachers, and the grade 1-3 resource teacher were asked to rate several characteristics of each child on a rating scale. The mean rating for each student was computed. It was assumed that each child would score in the "high" category on at least one characteristic. The majority of students scored at this level on at least one characteristic.

First- through third-grade students were pre- and posttested with the California Short-Form Test of Mental Maturity to determine the degree of academic growth. The results revealed that students scored significantly higher than was predicted in the areas of logical reasoning and verbal concepts. Students scored lower than was predicted in the area of numerical reasoning. It must be noted, however, that the level 1-3 curriculum did not concentrate in the area of numerical reasoning. The areas of memory and language approached significance, but the gains were not statistically significant. The gains in nonlanguage and total battery scores were also not statistically significant.

The lack of a statistically significant gain in some areas could be explained by the fact that 8 out of 14 third graders (57%) scored above the 80th percentile on the total battery of the pretest. Of that number, five students scored at or above the 90th percentile. It would be difficult to measure any significant gain when the student is close to the highest score possible on the pretest.

Participating students in grades 4-6 were pre- and posttested with the Cognitive Abilities Test. With the exception of the verbal battery in grades 5 and 6, observed posttest scores were significantly higher than predicted. The most noticeable gains were in the quantitative battery for grade 4 and the nonverbal battery at all three grade levels.

Assessment and Accountability Model for Elementary Guidance in Dallas

The evaluation results (Scott and Roberson, T479-321-31-05) indicated that, with the exception of some minor variations, the program activities for this project proceeded as specified. Each school was to conduct a needs assessment and base their plan on the identified needs. Two schools did not make any progress on their school's plan development until project management interceded and the problem was solved. A third school, Thomas Rusk, was dropped from the program because no visible progress was being made. Every other school completed at least a plan of action by the end of the year. Most schools were able to complete an evaluation.

In order to determine program impact, a survey was administered to participating counselors and principals during the month of May. Both groups indicated that they were pleased with project staff performance and the overall program. Both groups also indicated that they would like to use the plan again the next year. All participating schools were able to complete a plan of action. Thirty-two schools were able to complete evaluations of their activities.

K-3 Curriculum

In accordance with the April 1976 Court Order, Title IV-C funds were obtained to implement a K-3 Coordinated Curriculum Model program developed for use in the DISD so that it would be replicable in other urban school districts. The evaluation results are indicated in the report (Scott and Gonzales, T479-330-31-08).

With the exception of a printing delay, the project was on schedule throughout the year. Revised class profiles were not received until November 1979. According to Management Plans, on-site observations, and regular meetings with project staff, the project activities were completed on schedule.

Teachers throughout the District tended to react favorably to the program, as did involved parents. Kindergarten Metropolitan Readiness Test scores varied from being at norm to being considerably below norm. First-grade ITBS scores for 1978-79, compared to those for 1977-78, were generally improved to unchanged. Median national percentile scores on the ITBS for first graders in 1979 were in the low-average range (fourth stanine) for language and mathematics and in the average range for reading (fifth stanine). However, the mathematics median was close to the upper limit of the low-average range, while the reading median was close to the lower limit of the average range (i.e., these two medians differed by very little). Compared to the national norm group, DISD students at the end of grades two and three showed median achievement scores which were in the low-average range (fourth stanine) for reading and mathematics and in the average range (fifth stanine) for language. The first-to-second-grade cohort of District students showed gains on the ITBS which were commensurate with, or exceeded those, of the national norm group. Second-to-third-grade gains for District students could not be assessed due to the invalidity of the second-grade data.

Instructional Accountability System

This project was funded to develop a public school management information system based upon instructional research and theory that provides the means for setting "realistic" student performance goals in terms of curriculum structure, student entry levels and classroom instructional process variables. The evaluation results are contained in the report (Scott, T479-331-31-05).

During the 1978-79 project year, project staff developed an Instructional Monitoring System composed of one self-report instrument and an Instructional Process Observation Survey. The initial design test of the instruments was conducted in a mathematics class at Ben Milam Elementary School. Both instruments were revised based on feedback from the teacher.

Baseline objectives for mathematics (K-6) were analyzed in order to establish a skill hierarchy. In addition to the skill hierarchy, the new list of Baseline objectives was matched with ITBS Levels 7-11 test items.

Although the project successfully accomplished the proposed process objectives, little could be determined about the potential impact of the project during the initial year. School personnel with whom project staff had contact were very positive in their assessment of the concepts and goals of the project; however, little or no information was available on the impact. During the second and third years of the project, significant qualitative product information should become available.

Services

Living Materials Center

Title IV-C funds were obtained for a Living Materials Implementation Model to continue the supply of plants, animals, staff development, and services to the DISD, other North Texas public school districts and additional private schools. The evaluation data revealed that this project was very successful in meeting its objectives (Scott and Gonzales, T479-326-31-04).

On-site observations, monthly meetings with project staff, and examinations of the Management Plans and Tracking Activity Reports revealed no variations from the stated plans of the program. The project staff successfully completed the activities outlined in the objectives. On-site observations and mailed surveys indicated that living materials were delivered promptly and in good condition.

Two hundred and sixty teacher survey questionnaires were mailed to participants during the year and 231 were returned. A total of 220 indicated that they were satisfied with the materials and the service provided. Of the 58 on-site observations made, all of the deliveries observed were made at the appropriate time, and materials arrived in good condition.

Feedback from 96 DISD teachers who participated in inservice sessions indicated that the sessions were very well organized, and that the ideas and activities presented were meaningful.

The Living Materials Center was successful in providing the proposed services to the students and teachers of the DISD, the 14 participating school districts, and the participating private schools.

Occupational and Prevocational Training Instructional Options for Special Education Students (OPTIONS)

This project was funded as a planning and development grant committed to the expansion and refinement of vocational education for the handicapped. The evaluation results are indicated in the report (Scott, T479-334-31-08).

Project staff implemented the first year of the five-year plan and made needed revisions. Methods of screening, appraisal, and placement were implemented and expanded. In addition, objectives for three areas in career/vocational education were determined and available instructional materials were made available. A sequential placement options chart including District-wide alternatives for vocational education was developed. Some slippage in final typing and printing was experienced, but all proposed products were to be available by the start of the 1979-80 school year. All products and procedures developed were reviewed and approved by appropriate administrators for local dissemination.

The Multiple Careers Magnet and the Assessment Center were an outgrowth of the OPTIONS five-year plan. A survey of District professionals revealed that most were aware of the Multiple Careers Magnet and the Assessment Center. Most respondents were satisfied with the rate of assessment and placement, the transportation services provided, and the feedback received. However, the limited number of vocational options available was seen as restrictive by many. Nine additional areas were suggested. Almost all areas recommended are currently included in the District's career alternatives.

General Findings and Recommendations

Overall, evaluations of the Title IV-C and Title VII projects indicate the following:

1. The District has done an excellent job of planning and implementing Title IV-C projects, which considered together, focus on high priority needs, are managed effectively toward attaining the stated goals and objectives, and maximize the resources available.
2. Almost all of the Title IV-C projects have produced a variety of instructional improvement strategies and products which can and are being utilized immediately in the instructional program.
3. Many of the instructional improvement strategies and products have been developed with IV-C funds at minimal cost to the District and have potential for being utilized over extended periods of time.

The aforementioned results were based on the collective opinions of parents, teachers, administrators, and staffs of the various projects. Where it was possible, judgments about the success of a project were also based upon achievement gains of the groups which participated in the project.

The following recommendations are offered regarding the Title IV-C and Title VII projects:

1. Specific plans should be developed based on local priority needs to insure relevancy of future Title IV-C or other extra-district funded projects.
2. Future Title IV-C proposals should include funding for input evaluation to insure maximum utilization of existing knowledge, thereby avoiding duplication of effort.

References

Chadbourn, R. Pilot Accreditation Program: Physical and Environmental Health, Ecological Balance, and Safety (Report No. IE77-071-3-4). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1977.

Holland, T. Pilot Accreditation Program: Economics and Occupational Competence (Report No. IE77-071-3-7). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1977.

Scott, A. Instructional Accountability System (Report No. T479-331-31-05). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Gonzales, J. Evaluation of the K-3 Coordinated Curriculum Model (Report No. T479-330-31-05). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Gonzales, J. Evaluation of the Living Materials Implementation Model (Report No. T479-326-31-04). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Roberson, F. Evaluation of the Assessment and Accountability Model for Elementary Guidance in Dallas Program (Report No. T479-321-31-05). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A. Evaluation of the Occupational and Prevocational Training Instructional Options for Special Education Students Program (Report No. T479-334-31-08). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Roberson F. Evaluation of the Challenging the Gifted Child Program (Report No. T479-324-31-08). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Gonzales J. Evaluation of the Performance Level Administrator Training for Optimum Resource Management Program (Report No. T479-328-31-05). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A. Evaluation of the Dissemination and Implementation of Alternative Modes of Discipline (Report No. T479-335-31-05). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Roberson, F. Evaluation of the Parent Education Program (Report No. T479-325-31-11). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Roberson, F. Evaluation of the Academy Instructional Program Resource Materials and Media (Report No. T479-323-31-09). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Roberson, F. Evaluation of the Vanguard Instructional Program Resource Materials and Media (Report No. T479-322-31-09). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A. Evaluation of the Supplemental Instructional System for the Bilingual Education Program (Report No. T479-333-31-09). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A. Evaluation of the Laboratory in Creative Arts Program (Report No. T479-332-31-06). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Gonzales, J. Evaluation of the Health Education Skills for Living Program (Report No. T479-327-31-04). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A., and Gonzales, J. Evaluation of Career Education for the Hearing Impaired, K-12 (Report No. T479-329-31-08). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

Scott, A. Evaluation of the Bilingual Education Model Demonstration Project (Report No. T479-320-31-09). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August 1979.

INTERPRETATIVE ANALYSES OF 1978-79 RESEARCH AND EVALUATION REPORTS

VOLUME II

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DEPARTMENT OF RESEARCH AND EVALUATION

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INTERPRETATIVE ANALYSES OF 1978-79 EVALUATION REPORTS

VOLUME II

Approved report of the
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INTERPRETATIVE ANALYSES

An Interpretative Analysis of the Results of the Implementation of the 1978-79 Title-I Programs

R. A. Zepeda

In 1978-79, the Dallas Independent School District (DISD) spent funds authorized by Title-I of the Elementary and Secondary Education Act on compensatory, supplementary programs for economically and educationally deprived children in grades kindergarten through six. The major thrust of the DISD Title-I program was instructional with concentration in the areas of reading, mathematics, and bilingual education. In the five subdistricts of the DISD, Title-I programs in 1978-79 served 31,602 eligible students, of whom 20,002 (63%) were Black, 7,587 (24%) were Hispanic, 3,778 (12%) were White, 125 (4%) were Asian, and 110 (3%) were American Indian. The East Oak Cliff Subdistrict Title-I component was continued from 1977-78, focusing on implementation of a comprehensive program utilizing a variety of curriculum materials correlated with the District's baseline curriculum. Supportive components of the Title-I program including Community Involvement, Staff Development, and Dunbar concentrated their efforts on assisting the instructional components to meet the identified needs of children eligible for Title-I instructional services. Additionally, 15 Title-I schools participated in the Campus Level Planning Program, which was instituted in 1978-79.

The first section of this report contains a concise executive summary with conclusions and recommendations about the Title-I compensatory education effort in the DISD. The longer second section details process and product evaluation data collected on a continuing basis throughout the school year by the Title-I evaluation group of the Department of Research and Evaluation. For the ease of the reader, information is provided by component. Each section dealing with a component references all pertinent information collected during the 1978-79 year. A more detailed description and analysis of 1978-79 Title-I components can be found in the reports cited in the reference list at the end of this report.

Executive Summary

The 1978-79 Title-I program involved several components operating in 91 DISD schools, 7 non-public institutions, and 10 schools of the Diocese of Dallas. The success of the supplemental instructional programs and the support programs varied greatly, as this report illustrates. The range of success among components varied from non-implementation to complete attainment of proposed objectives.

Program management responsible for Title-I programs made several changes based upon interim reports during the 1978-79 school year. In cooperation with evaluators, they also designed many modifications to be employed in the 1979-80 Title-I program. At this time it appears that Title-I program managers and other administrators have made improvements in the Title-I programs that will retain and capitalize upon the successful aspects of past efforts and lead to a well-managed, well-implemented, effective Title-I program. Certainly, the mechanism for monitoring and reporting the implementation of Title-I programs has been well established. The cooperation among the Research and Evaluation staff, program managers, and DISD central administration has evolved to a high level. During 1978-79, the Research and Evaluation component continued to modify its reporting methods to meet the needs of Title-I professionals and others for useful information.

Briefly, each component had notable achievements for the 1978-79 school year and made modifications to improve in the future. The Staff Development Program successfully met most of its objectives for 1978-79. However, the Staff Development Program needs to be expanded to provide more training for the paraprofessionals involved with Title-I programs. Also, the program needs to focus on providing training for those professionals directly involved in giving supplementary instruction to Title-I students. Another area that needs to be expanded involves providing information about Title-I guidelines and program goals to principals of Title-I schools.

The Kindergarten Supplemental Readiness Program presented a paradox to the evaluators. The program served 3,216 students in 42 Title-I schools. The program's staff were enthusiastic, caring, and capable, yet achievement results fell from the level of the previous year. The program should focus on providing supplemental instruction by using Title-I professionals in direct contact with Title-I students. The paraprofessionals should work only with Title-I students and use carefully selected supplemental materials under the close direction of Title-I professionals. These modifications of what has proven in the past to be a well-organized program should produce the desired achievement results.

With the exception of one institution that never secured the services of a tutor, the Seven Non-Public Institutions generally met their academic objectives. The institutions demonstrated that the types of instructional services they provide can benefit their unique populations. To insure success, non-public institutions need to assign someone the responsibility of being the Title-I program manager as early as possible. The manager needs to work closely with the Special Programs Office of the DISD to structure the program to meet students' needs. The evaluators should continue to work to facilitate this cooperation between the institutions and the DISD.

The Title-I Attendance Study documented the attendance patterns for 1978-79 of students in the 91 Title-I schools. Figures for Title-I students and for the general student population provide useful comparative information for DISD administrators concerned with Title-I programs. It was noted that on the whole Title-I students in every grade attended school at a rate lower than the general student population at the 91 schools; however, there were cases at some schools where the reverse was true. Attendance data should continue to be collected and analyzed so that improvements in this important concomitant of achievement can be gauged.

The Bilingual Education Program served 3,174 students in 17 Title-I schools. It had good success meeting its academic objectives and shows promise of continued effectiveness. The bilingual program can be strengthened by early identification of the population it is to serve, by employing professionals, and by using the already identified bilingual materials in supplemental instruction. Paraprofessionals should work directly with the Title-I professionals.

The Campus Level Planning Program operated in 15 Title-I schools and showed one clear advantage over other Title-I instructional programs: involved principals made a definite difference in providing a well-managed, smoothly-operating Title-I program. In the future, the DISD should insure that all Title-I principals are (a) involved in the planning of Title-I programs, (b) informed about Title-I guidelines (local, state, and federal), and (c) informed about the effectiveness of the Title-I programs operating in their schools.

On the whole, the Dunbar Components met their specified objectives. The Dunbar staff again in 1978-79 demonstrated their ability to develop viable compensatory education programs of both instructional and support types. The DISD should continue to support the development of compensatory programs. Also, the Dunbar staff was effective in training teachers to use their programs to better educate urban students. This expertise can be used to good advantage in the future to train Title-I teachers to be more effective.

The Targeted Achievement in Reading Program served 16,758 first- through sixth-grade students in 72 Title-I schools located in the Northwest, Southwest, Northeast, and Southeast Subdistricts of the DISD. Title-I support personnel for the reading program included 74 Instructional Resource Teachers to coordinate Title-I implementation at the schools, 20 1/2 Reading Demonstration Teachers, and 116 1/2 reading teacher aides. The program had excellent attainment of its achievement objectives. This success should be furthered by having the Title-I professionals and paraprofessionals more directly involved with Title-I students. The continuing trend to depend less on packaged reading programs and more on a synthesis of materials and activities from various programs should make for a better, more individualized program of supplemental reading instruction.

The Targeted Achievement in Mathematics Program was another Title-I component that showed mixed results during 1978-79. This mathematics component served 17,430 students at 72 sites (excluding the East Oak Cliff Subdistrict). The achievement results were excellent. Without a doubt the analyses of ITBS mathematics scores showed that as a group Title-I students gained in mathematics proficiency. However, process results were far less positive; it appeared that much of the achievement gain by Title-I students must have been due to influences other than supplementary instruction. The program could be improved by using the strong Title-I management staff to (a) insure that an adequate supply of diverse materials is available for supplemental mathematics instruction early in the school year, and (b) assign and train approximately as many Title-I professionals and paraprofessionals for the mathematics program as for the reading program.

By and large the East Oak Cliff Personnel Development Center met its objectives. Those responsible for continuing the training conducted by the Center in 1978-79 should (a) enlarge the amount of training given to Title-I paraprofessionals, (b) continue the excellent training delivered to Title-I managers/administrators, and (c) continue the excellent efforts to explain Title-I programs to parents.

The East Oak Cliff Title-I Bilingual Program showed the need for skilled professionals to deliver a program of supplementary instruction. The program served 102 students in first through sixth grades on three campuses. The program can be improved in the future by earlier ordering of materials and by employing more Title-I bilingual professionals to deliver supplementary instruction. This year's program involved one professional and five paraprofessionals.

The East Oak Cliff Title-I Multicultural Social Studies Program was well-implemented and -managed although not restricted to Title-I students. It served over 7,200 Title-I students and was implemented by classroom teachers with help from 2 resource teachers. A program of this nature should probably be given to the general student population of the DISD without Title-I restrictions.

The East Oak Cliff Supplemental Mathematics Program was superior to the Targeted Achievement in Mathematics Program implemented in the other subdistricts in one important respect: it provided higher levels of professional and paraprofessional staffing for supplementary mathematics. Title-I funded staff included a coordinator, 17 Instructional Resource teachers (50% mathematics), 18 Mathematics Demonstration Teachers, 18 mathematics paraprofessionals and 26 kindergarten paraprofessionals (50% mathematics). Although measured against different objectives, academic achievement of students in the East Oak Cliff program was equal to the achievement of other Title-I students. The program served 8,766 students on 19 campuses. Another notable aspect of the East Oak Cliff program was the computer-assisted instructional system at Maynard Jackson school.

The East Oak Cliff Supplemental Reading/Language Arts Program showed an advantage over the Targeted Achievement in Reading Program that operated in the other subdistricts. The multiplicity of materials available for supplementary reading instruction had an excellent reception by the teachers who used them. The East Oak Cliff components have been instrumental in changing Title-I in the DISD away from packaged programs. The East Oak Cliff Title-I reading program was well-managed and produced achievement results comparable to the other Title-I reading program. It served 8,351 student in kindergarten through sixth grades on 19 campuses. Title-I funded staff included a coordinator, 17 Instructional Resource Teachers (50% reading), 25 Reading Demonstration Teachers, 68 reading paraprofessionals and 26 kindergarten paraprofessionals. Another notable aspect of the East Oak Cliff program was the computer-assisted instructional system at Maynard Jackson school.

The Community Involvement Program was well-managed and effectively implemented. An impressive number of home visits were made to contact the parents of Title-I students. A large number of parents attended meetings at the Title-I schools during the year. This component is one of the strengths of the Title-I program and in the future should be even more widely employed to support all other components.

The Catholic Diocese of Dallas Title-I Programs provided a well-managed system of supplementary instruction, serving 660 students in 10 regular schools and 3 institutions. The Diocese follows the same guidelines as the DISD in operating its Title-I programs. The Diocese and the Department of Research and Evaluation need to continue to cooperate to improve the student identification and data collection so that inconclusive achievement results, such as those encountered in 1978-79, can be avoided. Process evaluations found an impressively well-implemented supplementary instructional program in the Diocese.

The Title-I Migrant Tutoring Program, which served 381 students in grades kingergarten through eight, achieved its measurable objectives to a high degree. Academic achievement is extremely difficult to assess for this mobile, Spanish-speaking student population. The program offered a well-managed tutoring program using bilingual tutors. Employing the tutors for additional hours per week would improve the program's chance of success. The migrant education program did an excellent job of identifying students and contacting parents.

The Title-I Summer Enrichment Program, which served 797 students in grades kindergarten through six, demonstrated for the first time in the DISD the potential of a summer program for Title-I students. It had several positive aspects. First, academic achievement was good. To a large extent students mastered new baseline objectives in reading and mathematics. Second, student motivation was high. Observations found students active and more involved than during the regular school year. Third, the summer program was well-designed. Time was allotted for reading, mathematics, creative, and recreative activities. A well-planned schedule contributed to the high student motivation and to staff morale. Continuation and expansion of this effort should be decided well in advance of the 1980 summer term.

Staff Development Program

Zepeda (T179-348-31-16) reported the evaluation of the Title-I Staff Development Program (SDP), which this section summarizes. As in the past, the goal of the 1978-79 SDP was to provide the Title-I instructional staff with experiences and activities that would enhance their teaching effectiveness. Staff training was designed with the intent to alleviate such problems as disruptive classroom behavior, poor attendance, and low academic achievement. The opportunity for staff members to participate in a retraining program involving cross-cultural experiences was made available to the staff of every Title-I campus and component during 1978-79. The goals of the SDP were to be achieved through four programs: Dallas Urban Education (DUE), Educational Excellence (EE), Instructional Staff Training, and the Teacher/Teacher Aide (TTA) pilot project.

DUE involved student teachers assigned to cooperating teachers who taught in Title-I schools. Matched pretest and posttest assessment instruments were collected from 22 student teachers. The EE seminars were presented for classroom teachers serving Title-I students. Approximately 200 Title-I participants were involved in the EE seminars, roughly 14% of the population. The Instructional Staff Training sessions were attended by 166 professionals and 355 paraprofessionals funded by Title-I. TTA activities involved approximately 140 teachers and aides at five pilot schools.

Of the student teachers and cooperating teachers in Title-I schools, 50% were to have participated in DUE activities, according to the proposal. Records from the SDP staff indicated that all student and cooperating teachers attended 20 hours of training designed to improve their knowledge and practice of teaching in urban schools. Another specification of the proposal was that all of the participants would reflect a gain in their knowledge of the sociological, psychological, and educational aspects of teaching in urban schools. About half of the student teachers were able to show a gain on a criterion-referenced instrument designed specifically for DUE.

The EE seminars were to have been attended by 15% of the regular classroom teachers who served Title-I students. This goal was nearly met; approximately 14% of those teachers concerned were counted in attendance at EE seminars. Also, according to the proposal, all EE participants were to show an increased knowledge of strategies for teaching urban students. However, no gain was observed on the criterion-referenced, pretest-posttest assessment instrument developed for the EE seminars. The lack of noticable gains was, in part, attributed to problems with the measurement instrument.

The Instructional Staff Training objective was for 80% of the professionals and paraprofessionals funded by Title-I to complete 24 hours of staff development training designed to improve their competencies in working with Title-I students. Records from Title-I instructional management showed that this objective was met.

The TTA part of the SDP was to provide two hours of staff development activities in the pilot schools by the end of the 1978-79 school year. Teachers and aides in these schools completed the training. Assessment instruments administered approximately two weeks after the training indicated that 80% of the participants retained a knowledge of the concepts presented.

Kindergarten Supplemental Readiness Program

Burns, Wilson, and Andrews (T179-342-31-30) reported the evaluation of the Kindergarten Supplemental Readiness Program (KSRP). The KSRP was designed to facilitate attainment of the objectives in the District's baseline curriculum. This supplemental instruction was to incorporate all existing materials, resources, and programs available to the District including developmental approaches to teaching basic skills and individualized instruction. The achievement objective was for 1978-79 KSRP students to improve their performance on the Metropolitan Readiness Tests (MRT) when compared to the previous year's students. A smaller percentage of students scoring in the 1-25th percentile range along with an increase in the percentage scoring above the 50th percentile was the expectation.

The KSRP was implemented in 42 Title-I schools in four subdistricts. The program served 3,216 kindergarten students. Within the student population, 4.9% were White, 66.2% were Black, 27.9% Hispanic, and the remaining 1.1% were from other etnic groups. MRT scores were obtained for 1,610 of the kindergarten students in the program.

Process evaluation showed a high level of implementation of the KSRP as designed. The kindergarten instructional day lasted approximately five hours. This time included the subjects of reading, mathematics, science, social studies, creative, and recreative arts as well as lunch and rest periods. Instruction in the kindergarten classrooms was done primarily by the classroom teachers with aides reinforcing what was taught. In some classrooms Instructional Resource Teachers (IRTs) and Mathematics and/or Reading Demonstration Teachers (MDTs and/or RDTs) worked directly with the students. A correlation of the DISD kindergarten baseline curriculum, supplementary materials, and the basal text formed the KSRP curriculum. Supplementary materials included 12 language arts programs, 12 mathematics programs, 9 bilingual programs, 6 Dunbar-developed programs, 4 creative arts programs, 2 social studies programs, and 1 science program. On the whole, kindergarten teachers interviewed at the 42 sites indicated that they preferred direct classroom assistance from professionals or paraprofessionals over additional materials. They felt that benefits to Title-I students came from individualized instruction rather than materials.

The KSRP population was tested with the MRT between March 26 and April 6, 1979. Valid scores were available for 1,610 or 50.1% of the participants. The mean raw score on the MRT composite was 49.2 out of a possible 97 with a standard deviation of 16.6. Table 1 shows the distribution of raw scores. Table 2 shows a comparison of the distribution of percentile scores for the 1978-79 and 1977-78 KSRP populations. Although the percentage of students in the 1-9th percentile range decreased 3.6 points from 1977-78 to 1978-79, the percentage at and above the 50th percentile decreased by 4.6 points.

There were 739 students in the KSRP with valid test scores who attended 90% or more of the days of the 1978-79 school year. The raw score means for these students was 51.9 (s = 16.4). This mean, higher than the average score for the entire population, indicated that more participation in the program was associated with higher achievement. The 561 students who attended between 75 to 89% of the days in the 1978-79 school year had a mean score of 49.0 (s = 16.3) within .2 of the overall average for KSRP students. The 310 students who attended less than 75% of the school days had a lower mean score than the overall population (mn=33.7, s=12.0) reinforcing the association between attendance and achievement. Table 3 shows a comparison of the three attendance groups.

A Chi-square analysis was done on the MRT scores. This statistical test was used to allow inferences to be made about the significance of different levels of performance between the KSRP students in school years 1977-78 and 1978-79. Overall, the KSRP students in 1978-79 had an increased percentage in the 1-25th percentiles and a decrease in the percentage above the 50th percentile. The net result was a decreased level of performance on the MRT when 1978-79 KSRP students were compared to those in 1977-78. The test statistic was significant (Chi-square = 14.97, df = 2) indicating a statistically significant (if not practically significant) difference between the two populations. The Chi-square analysis was also significant in the same direction for the 90% or higher attendance group. The other two attendance groups had shifts in the same direction but not in magnitude, i.e., the test statistic was not significant. Table 4 shows the results of the Chi-square analyses.

Table 1

Raw Score Frequency Distribution for Kindergarten Spring 1979

MRT, Level II, Form P Composite Score	Percentage of Students	Number of Students	Cumulative Percentage
91-97	.6	10	.6
86-90	1.2	20	1.9
81-85	2.0	33	3.9
76-80	3.6	58	7.5
71-75	4.7	76	12.2
66-70	4.9	79	17.1
61-65	7.5	121	24.7
56-60	9.5	153	34.2
51-55	10.5	169	44.7
46-50	9.9	160	54.6
41-45	11.6	186	66.1
36-40	12.2	197	78.4
31-35	9.1	147	87.5
26-30	7.1	114	94.6
21-25	3.0	49	97.6
16-20	1.8	29	99.4
11-15	.3	5	99.8
6-10	.1	1	99.8
1-5	.2	3	100.0

Note: This table is based on 1,610 posttest MRT raw scores for Spring 1979, Title I kindergarten students. There were 739 students in the KSRP with valid test scores who attended 90% of more of the days of the 1978-79 school year.

Table 2

Comparison of Number/Percent in Each Percentile Range for All KSRP Students for 1977-78 and 1978-79

	1977-78		1978-79	
Percentile	No.	Percent	No.	Percent
1-9	597	25.2	348	21.6
10-19	415	17.5	348	21.6
20-29	353	14.9	267	16.6
30-39	292	12.3	214	13.3
40-49	196	8.3	157	9.8
50-59	139	5.9	79	4.9
60-69	140	5.9	76	4.7
70-79	105	4.4	58	3.6
80-89	74	3.1	33	2.0
90-99	56	2.4	30	1.9

Note: The above represents two separate kindergarten populations, both tested at the end of their respective school years. In 1977-78 the total tested was 2,367 and in 1978-79 the total was 1,610.

Table 3

MRT Analysis by Attendance for KSRP
Number/Percent in Each Percentile Range

	90%+ Attendance		75-89% Attendance		Less than 75% Attendance	
Percentile	No.	Percent	No.	Percent	No.	Percent
1-9	124	16.8	110	19.6	114	36.8
10-19	137	18.5	145	25.8	66	21.3
20-29	124	16.8	94	16.8	49	15.8
30-39	118	16.0	66	11.8	30	9.7
40-49	92	12.4	45	8.0	20	6.5
50-59	40	5.4	29	5.2	10	3.2
60-69	37	5.0	30	5.3	9	2.9
70-79	30	4.1	21	3.7	7	2.3
80-89	19	2.6	12	2.1	2	0.6
90-99	18	2.4	9	1.6	3	1.0

Note: This table is based on posttest MRT raw scores for Spring 1979, Title-I Kindergarten students, 739 with 90% or more attendance, 561 with 75-89% attendance, and 310 with less than 75% attendance.

Table 4

Chi-Square Results Based on a Comparison
of the 1977-78 and 1978-79
MRT Percentile Scores

Percentile Range	1977-78		1978-79		Change	Chi-Square
	Number	Percent	Number	Percent		
All Students						
1-25	1237	52.4	863	53.6	inc	
26-50	612	25.9	471	29.3	inc	
51-99	513	21.7	276	17.1	dec	14.97*
Students with 90% or More Attendance						
1-25	471	43.5	336	45.5	inc	
26-50	316	29.2	259	35.0	inc	
51-99	295	27.3	144	19.5	dec	16.12*
Students with 75%-89% Attendance						
1-25	492	56.4	318	56.7	inc	
26-50	212	24.3	142	25.3	inc	
51-99	169	19.4	101	18.0	dec	0.579
Students with Less Than 75% Attendance						
1-25	274	67.3	209	67.4	inc	
26-50	84	20.6	70	22.6	inc	
51-99	49	12.0	31	10.0	dec	0.697

*Chi-square test significant at the .05 level of significance with df = 2 and the critical chi-square value = 5.99.

The MRT raw score mean for KSRP students was 52.2 in 1976-77. In 1977-78 the raw score mean was 49.8, and in 1978-79 it was 49.2. Hopefully the closeness of the 1977-78 and 1978-79 mean raw scores indicates the end of the downward trend of MRT performance. Process evaluations suggest that the populations in KSRP vary from year to year and that children may be starting school at a lower readiness level. The optimistic conclusion of the evaluators was that since increased exposure to the program was associated with achievement perhaps increased attendance can make up beginning deficiencies.

Non-Public Institutions

Ferguson and Schroeder (T179-351-31-05) reported the evaluation of the Title-I programs funded at seven non-public institutional sites to help raise the academic achievement of students in their custody. The specific objective of the Title-I program at the Dallas County Child Welfare agency was for participating students to raise their achievement levels by five or more grade-equivalent months. At the other six facilities (Dallas County Juvenile Detention Center, Dallas House, Dallas County Boys Home, Juliette Fowler Home, Rotary Town house, Inc., and Buckner Baptist Children's Home) participating students were to achieve an average of one academic month's growth per month of instruction. Additionally, the Buckner Baptist Children's Home included a health objective and a recreative arts objective.

Dallas County Boys Home. This institution housed male juvenile delinquents aged 10 to 16 in grades 5 through 10. An average of 60 youngsters resided at the Center during the 1978-79 school year. These students were served at the site by two regular teachers and one Title-I teacher.

The program at the Boys Home started late. However, in January the resource room where tutoring was to be done was relocated to the on-campus school. There, small groups of students were tutored in reading, mathematics, and spelling for 45-minute periods. Due to late ordering, materials for the program began arriving in January also. The camping program originally included in the proposal was deleted in December by the funding agency.

Matched pretest and posttest Wide Range Achievement Test (WRAT) scores were obtained for 45 of the 98 students in grades five through nine who were served at the facility during the year. The objective of the program was for all program participants to gain one month's academic growth for each month of instruction. Table 5 shows the extent to which this goal was met. Performance varied greatly between grades and between academic areas. Average month-per-month gains were 1.3 months in reading, .8 months in spelling, and 1.2 months in mathematics. The average length of stay in the program was 6.1 months.

Rotary Townhouse, Inc. This institution served as a half-way house for juvenile delinquents from the Dallas County Boys Home. The capacity of the facility was eight boys, ages 12 through 15 in grades six through nine. The Title-I program at the facility consisted of one tutor who instructed 11 boys in grades six through nine during the course of the year. Tutoring was conducted for four one-hour sessions each week, divided between one or two evenings.

Table 5

Analysis of Achievement Objective at
Dallas County Boys Home

Grade	No. of Students Pre- and Posttested	% Meeting Objective		
		Reading	Spelling	Mathematics
5	1	0	0	0
6	5	60	80	60
7	16	19	31	38
8	7	57	14	71
9	16	63	31	50
Total Across Grades	45	44	33	49

Materials for the program were ordered late and did not arrive in time to be of much use to the program. In spite of this fact and the tutor not being hired until November, the program was sufficiently managed and implemented.

Originally, the program had as its objective that students would gain two years of academic growth during the term of the program. This was later changed to the month-per-month objective. Of the 11 boys tutored during the year, 6 boys in grades seven, eight, and nine had WRAT pretest and posttest scores. Table 6 shows the program attained its objective to a high degree. Average month-per-month gains were 4.7 months in reading and 8.5 months in mathematics. The average stay in the program was 2.9 months.

Juliette Fowler Home. This institution housed emotionally disturbed children ages 13 through 18 in grades 7 through 12. The capacity of the facility was 18 although an average of 12 were in residence at any one time. A part-time coordinator-tutor managed the Title-I program. This person recruited the volunteer tutors who instructed 29 students in grades 7 through 12 in an evening tutoring program. Several volunteers came each evening to tutor students for 45 minutes in reading, spelling, and mathematics, but specific tutor-tutee pairs were not established. Overall, the program appeared to be sufficiently well-managed and implemented.

Table 6

Analysis of Achievement Objective at Rotary Townhouse, Inc.

	No. of Students	% Meeting Objective	
Grade	Pre- and Posttested	Reading	Mathematics
7	2	100	100
8	1	100	100
9	3	67	100
Total Across Grades	6	83	100

Originally, a summer swimming program was proposed. Due to the difficulties in hiring an instructor and testing the students this part of the Title-I program was dropped.

Of the 29 who received Title-I services at some time during the year, 14 had WRAT pretest and posttest scores. The program's gains per month of instruction were considerable: 1.8 months in reading, 1.7 months in spelling, and 1.3 months in mathematics. The average length of stay in the program was 6.0 months. Table 7 shows the percent of students at each grade level who achieved the objective of a month's growth for a month's instruction.

Table 7

Analysis of Achievement Objective at
Juliette Fowler Home

Grade	No. of Students Pre- and Posttested	% Meeting Objective Reading	% Meeting Objective Spelling	% Meeting Objective Mathematics
7	2	100	50	50
8	1	100	0	0
9	3	67	100	100
10	4	75	50	25
11	3	100	100	33
12	1	0	100	100
Total Across Grades	14	79	71	50

Dallas County Juvenile Detention Center. This institution served as a temporary holding facility for children aged 10 through 17 (grades 4 through 12) who violated the law. About 80 children resided there at any given time, although about 6,000 process through the center each year. Title-I funds provided for an aide to assist the three regular teachers. In December the aide had not yet been hired and a decision was made to hire a tutor. Due to miscommunications among the Center, the Special Programs office of the DISD, and the Texas Education Agency, neither an aide nor a tutor was ever hired for this program. Some materials were ordered, but no services were provided.

Buckner Baptist Children's Home. The Home's residents were children ages 5 through 18 years in kindergarten through 12th grade whose parents could not care for them due to family problems. Approximately 300 Buckner children attended DISD schools with another 50 attending an on-site special education school. A Title-I home/school resource teacher coordinated an evening tutoring program for 114 1st- through 12th-grade students. Approximately 50 volunteers assisted by one aide provided tutoring in reading and mathematics. Other Title-I personnel included two recreative arts teachers, one recreative arts aide, one head nurse, and one head teacher who managed the whole Title-I program. Recreative arts and health services were provided for 383 students.

During the evening the 50 tutors, assisted by the aide and home/school resource teacher, tutored students individually in reading and mathematics for one-hour periods. The instruction was judged to be well-organized and well-implemented. Title-I materials were abundant at

Buckner, and were amply employed in the tutoring and recreative arts programs. A considerable number were also used at the special education school.

Of the 114 students in the tutoring program, pretest and posttest WRAT scores were available for 106 of them in grades 1 through 12. The objective of the tutoring program was to have every student achieve a month of academic growth for every month of instruction. This objective was achieved to a moderate extent. Across all grades, average gains were 2.9 months in reading and 1.3 months in mathematics for each month of instruction. The average length of stay in the tutoring program was 5.1 months. Table 8 shows the percentage of students at each grade meeting the tutoring objective.

The health objective at Buckner called for every child to be given a health screening. This was done; 383 children were screened. The recreative arts objective calling for physical fitness gains for students could not be assessed due to the lack of suitable measures.

Dallas House. This institution, a half-way house for juvenile offenders ages 15 through 17, served approximately 234 boys in grades 9 through 12. A Title-I tutor provided instruction during the evenings throughout the school year. The tutor spent four hours per evening, four evenings a week tutoring 18 students in grades 8 through 10 in reading, spelling, and mathematics. The tutor was well organized and appeared to do an effective job instructing students.

No Title-I materials were purchased for this program. No money for materials was allotted to the program. However, during the year the tutor's employment was reduced from five to four days per week and this money could have purchased instructional materials. The budget change to

Table 8

Analysis of Achievement Objective at Buckner Baptist Children's Home

Grade	No. of Students Pre- and Posttested	% Meeting Objective Reading	% Meeting Objective Mathematics
1	1	100	100
2	8	50	88
3	11	55	73
4	11	64	55
5	11	91	91
6	15	80	47
7	14	71	50
8	14	79	43
9	11	64	45
10	6	83	33
11	3	67	67
12	1	100	100
Total Across Grades	106	72	56

allow this to happen was not effected. Another change in the proposal altered the achievement objective so that only those students who had been in the program two months or longer were included in the gain analysis.

Pretest and posttest Metropolitan Achievement Test scores were available for 6 of the 18 students served by the tutoring program. These students were in grades 8, 9, and 10. The objective of a month's academic gain for each month of instruction was met to a high degree. Average month-per-month gains were 3.7 months in reading, 3.2 months in spelling, and 3.4 months in mathematics. The average time spent in the tutoring program was 2.5 months. Table 9 shows the percent of students at each grade who achieved the objective.

Table 9

Analysis of Achievement Objective at
Dallas House

Grade	No. of Students Pre- and Posttested	% Meeting Objective		
		Reading	Spelling	Mathematics
8	1	100	100	100
9	3	100	67	100
10	2	100	100	50
Total Across Grades	6	100	83	83

Dallas County Child Welfare. This agency was responsible for placing children in foster homes. Approximately 300 children ages 6 to 18 were served by this institution. The agency employed 10 certified teachers to tutor students during the evening in reading and mathematics. A part-time coordinator managed the program. Tutors were assigned one or two homes where they tutored foster children one to four hours per week. The program was judged to have been efficiently organized, managed, and implemented.

Pretest and posttest WRAT scores were available for 32 of 46 foster children in the tutoring program. These children were in grades 1 through 10. The objective of a month-per-month gain was met to a moderately high degree. Across all grades the average monthly gains were 1.8 months in reading and 1.5 months in mathematics. The average time per student in the tutoring program was 6.6 months. Table 10 shows the percent of students at each grade who met the objective.

Title-I Attendance Study

This study (Vines and Zepeda, T179-352-31-10) was conducted to document the patterns of attendance at 91 Title-I schools during 1978-79. Attendance data were collected for each school for the first five six-weeks attendance periods. Time did not allow attendance data to be collected for the final period. It was assumed that attendance rates remained constant across the final six weeks. Attendance data were available for 29,073 of the 31,602 Title-I students. For comparison purposes data were collected for an additional 13,209 of the 16,240 non-Title-I students enrolled at the 91 schools.

The 91 schools were ranked according to the attendance rates of Title-I students and of the entire student population. Attendance rates for Title-I students ranged from 95.37% to 86.27% of school days attended. Rates for the entire student population ranged from 95.54% to 86.67%. Table 11 shows the 10 schools with the highest attendance rates for Title-I students as well as statistics for all students enrolled.

A summary across all Title-I schools is presented in Table 12. It shows that kindergarten students attended at the lowest rate. For Title-I students the third-grade students had the highest rate and for the entire population the fifth-grade attendance rate was highest. It is interesting to note that at every grade level the attendance rate was higher for the total school population than it was for the Title-I students. This indicates that attendance rates were higher for non-Title-I students than they were for Title-I Students.

Bilingual Education

Rainone, Sides, and Zepeda (T179-343-31-09) reported on the evaluation of the Title-I Bilingual Education Component (BEC). This component served those children who were eligible for Title-I services and also were of limited English-proficiency. Spanish curricula were employed with these students for the purpose of helping them achieve the objectives of the DISD baseline curriculum at the same time as they developed a facility with the English language. The academic objective of the BEC was for the population of students in the 1978-79 program to surpass the 1977-78 BEC population on the results of the Reading Comprehension and Reading Vocabulary subtests of the ITBS.

Table 10

Analysis of Achievement Objective at Dallas County Child Welfare

Grade	No. of Students Pre- and Posttested	% Meeting Objective	
		Reading	Mathematics
1	2	50	100
2	4	100	50
3	5	40	40
4	1	100	100
5	7	43	71
6	1	0	0
7	4	75	50
8	2	50	0
9	5	80	100
10	1	0	100
Total Across Grades	32	59	63

Table 11

Ten Schools with the Highest Attendance Rates for Title-I Students

School	Subdistrict	Title-I Students		All Students	
		Attendance	Rank	Attendance	Rank
C. Oliver	EOC	95.37%	1	95.34%	2
M. Jackson	EOC	95.16	2	95.54	1
U. Lee	SW	95.09	3	95.13	3
T. D. Marshall	EOC	93.40	4	93.67	4
K. B. Polk	NW	93.32	5	92.87	10
O. Knight	NW	93.13	6	93.18	7
C. P. Russell	EOC	93.09	7	93.14	8
J. N. Ervin	EOC	93.00	8	92.80	11
J. N. Bryan	EOC	92.94	9	93.06	9
R. E. Lee	NE	92.84	10	93.54	5

Table 12

Summary of Attendance by Grade in 91 Title-I Schools

	Grade								
	K	1	2	3	4	5	6	Total	Enrollment
					Title-I Students				
Att.	88.09	89.75	91.03	91.84	91.70	91.64	91.74	91.02	
No.	2799	3881	3828	4469	4793	4656	4647	29,073	31,602[b]
					All Students				
Att.	88.61	90.14	91.41	91.87	91.89	92.06	91.97	91.24	
No.	4763	5826	6125	5682	6777	6683	6426	42,282[a]	47,842[c]

[a] Students for whom attendance data were available.

[b] Students enrolled in Title-I programs at the end of the 1978-79 school year.

[c] Students enrolled in Title-I schools at the end of the 1978-79 school year.

Of the 91 Title-I schools, 17 were designated as BEC schools. Within these schools 3,174 students met the criteria to be served in the program. Title-I funds provided 30 teacher aide positions distributed among the 17 schools. Materials were purchased and distributed to the schools and used to instruct the BEC student population. The BEC aides worked with classroom teachers fluent in Spanish who had BEC students in their classes. The aides generally worked with small groups of BEC students in the classrooms using BEC materials during the reading/language arts time block.

ITBS gain scores for the 1978-79 BEC student population in grades one through six were compared to gains for similar students from the 1977-78 BEC. No gains could be computed for kindergarten students so the distributions of MRT scores for the two groups were compared.

Table 13 shows the kindergarten comparison. A higher percentage, about a 3% difference, scored at the 50th percentile and above in 1978-79 compared to 1977-78. Also, the 1978-79 results were considered more favorable than the 1977-78 results since there was a 10 percentage point decrease in scores below the 10th percentile for 1978-79 compared to the previous year.

Table 14 shows the pretest-posttest comparison of grade-equivalent score gains between the 1977-78 and 1978-79 BEC students on the ITBS Reading Comprehension subtest. Only at the fourth grade did the 1978-79 students fail to surpass the gain made the year before. At grades three and six notable improvements were seen.

Table 15 shows a comparison of 1977-78 and 1978-79 BEC students' performance on the ITBS Reading Vocabulary subtest. Again at the fourth grade 1978-79 BEC students did not outgain the comparison group. At all other grades the 1978-79 BEC students exceeded the gains made the year before and on the average made near to a year's academic growth. The gain at the third grade was particularly impressive.

A further analysis of ITBS grade-equivalent scores found that generally in both the Reading Comprehension and Reading Vocabulary areas students in the 1978-79 BEC had a smaller proportion of students making academic losses and a larger proportion making gains in excess of one year than the comparison BEC population of 1977-78. This upward shift of scores was seen as another positive indication of the improvement of the Title-I BEC.

Campus Level Planning Program

Wilder and Zepeda (T179-347-31-05) reported on the evaluation of the Campus Level Planning Program (CLPP). The CLPP provided 15 schools with the opportunity to develop and operate campus-based instructional programs. While the schools retained the responsibility for meeting the instructional objectives of the supplemental programs such as TAMP, BEC, etc. their options in managing these programs were greatly expanded. On the 15 campuses the CLPP had 15 principals, 17 IRTs, 17 demonstration teachers, and approximately 300 teachers and 60 aides involved in supplementing instruction. Of the 8,511 students at the 15 schools, 5,881 received Title-I services.

Table 13

Distribution of BEC Kindergarten Students' MRT Percentile Scores 1977-78 and 1978-79

Percentile	1977-78		1978-79	
	n	Percent	n	Percent
1-9	147	27.2	73	15.4
10-19	107	19.8	90	19.0
20-29	83	15.4	88	18.6
30-39	53	9.8	72	15.2
40-49	48	8.9	46	9.7
50-59	33	6.1	26	5.5
60-69	24	4.4	31	6.5
70-79	13	2.4	25	5.3
80-89	23	4.3	11	2.3
90-99	9	1.7	12	2.5

Note. n = 540 for 1977-78, n = 474 for 1978-79.

Table 14

ITBS Reading Comprehension Mean Grade Equivalent Scores for Title-I Bilingual Students, 1977-78 and 1978-79

		Grade					
		1	2	3	4	5	6
1978-79	n	461	309	302	354	348	298
	Pre mn	0.6a	1.2	1.7	2.3	2.8	3.1
	Post mn	1.8	2.0	2.8	2.9	3.6	4.1
	Gain	1.2	0.8	1.1	0.6	0.8	1.0
1977-78	n	629	283	315	166	195	164
	Pre mn	0.6a	1.6	2.4	2.5	3.2	3.6
	Post mn	1.5	2.3	2.7	3.4	3.7	4.2
	Gain	0.9	0.7	0.3	0.9	0.5	0.6

Note. Pretests were administered in April 1977 for the 1977-78 year and in April 1978 for the 1978-79 year. Posttests were administered in April 1978 and April 1979 for 1977-78 and 1978-79, respectively. Thus, there was approximately a one-year interval between pre- and posttesting for both school years.

[a] Arbitrary grade equivalent assignment.

Table 15

ITBS Vocabulary Mean Grade Equivalent Scores for Title-I Bilingual Students, 1977-78 and 1978-79

		Grade					
		1	2	3	4	5	6
1978-79	n	436	323	291	349	348	296
	Pre mn	0.6a	1.1	1.6	2.5	2.7	3.1
	Post mn	1.4	2.0	2.9	2.9	3.6	4.0
	Gain	0.8	0.9	1.3	0.4	0.9	0.9
1977-78	n	646	293	317	164	194	164
	Pre mn	0.6a	1.5	2.1	2.6	3.0	3.5
	Post mn	1.2	2.0	2.8	3.0	3.6	4.0
	Gain	0.6	0.5	0.7	0.4	0.4	0.5

Note Pretests were administered in April 1977 for the 1977-78 year and in April 1978 for the 1978-79 year. Posttests were administered in April 1978 and April 1979 for 1977-78 and 1978-79, respectively. Thus, there was approximately a one-year interval between pre- and posttesting for both school years.

[a]Arbitrary grade equivalent assignment.

Information from process evaluations indicated that after some initial delays in receiving instructional materials and placing personnel the CLPP was implemented as specified. Instructional activities were presented in classrooms, resource rooms, and laboratories. An average of 91% of the Title-I reading students in the CLPP received at least part of their instruction in the classroom; 89% of the mathematics students were served this way. Laboratory and resource room activities were provided to 38% of the eligible reading students and 27% of the eligible mathematics students. Title-I resource personnel in the CLPP were generally effective and efficient. Each IRT, demonstration teacher, and aide assisted in identifying eligible students, providing ongoing programs of supplemental instruction, and supplied the student data necessary for effective planning. The planning and coordination of Title-I activities at the school level was effective and well-done. The principal and staff of each school teamed to develop a Title-I program appropriate for the needs of the school's eligible students. In general, the structure of the Title-I programs remained the same as in previous years with the major difference being a noted increase in Title-I materials and personnel. All 17 IRTs noted an increased emphasis in the CLPP schools on the correlation of supplemental instruction to the DISD baseline curriculum.

Anticipated gains in student achievement were attained to varying degrees within the various instructional areas as well as the several grades. Tables 16 and 17 show pretest and posttest mean grade-equivalent scores and grade-equivalent gains in reading and mathematics for CLPP

Table 16

ITBS Reading Subtest Results for
Students in CLPP Schools by Grade

Grade	Statistic	Pretest	Posttest	Gain
1	N	784	784	
	Mean Grade Equivalent	.60a	2.01	1.41
	Standard Deviation	.00	3.77	
2	N	509	587	
	Mean Grade Equivalent	1.57	2.15	.58
	Standard Deviation	1.39	.80	
3	N	511	638	
	Mean Grade Equivalent	2.14	2.65	.58
	Standard Deviation	.95	.95	
4	N	535	769	
	Mean Grade Equivalent	2.30	3.08	.78
	Standard Deviation	.67	.87	
5	N	719	740	
	Mean Grade Equivalent	3.00	3.68	.68
	Standard Deviation	.90	1.07	
6	N	741	739	
	Mean Grade Equivalent	3.41	4.08	.67
	Standard Deviation	1.06	1.26	

Note. The pretest was administered in April, 1978, and the posttest was administered in April, 1979. Thus, there was a one-year interval between pre- and posttests.

[a] Pretest data were not available in grade equivalents for first grade students since they took the MRT (which uses percentiles) rather than the ITBS.

Table 17

ITBS Mathematics Subtest Results
for Students in CLPP Schools by Grade

Grade	Statistic	Pretest	Posttest	Gain
1	N	747	747	
	Mean Grade Equivalent	60[a]	1.55	.95
	Standard Deviation	.00	0.59	
2	N	471	508	
	Mean Grade Equivalent	1.40	2.31	.91
	Standard Deviation	0.55	0.73	
3	N	491	736	
	Mean Grade Equivalent	1.93	2.98	1.05
	Standard Deviation	0.63	0.87	
4	N	656	794	
	Mean Grade Equivalent	2.69	3.41	.72
	Standard Deviation	0.74	0.90	
5	N	710	714	
	Mean Grade Equivalent	3.13	3.91	.78
	Standard Deviation	0.78	1.02	
6	N	733	786	
	Mean Grade Equivalent	3.57	4.70	1.13
	Standard Deviation	1.04	1.42	

Note. The pretest was administered in April, 1978, and the posttest was administered in April, 1979. Thus, there was a one-year interval between pre- and posttests.

[a] Pretest data were not available in grade equivalents for first grade students since they took the MRT (which uses percentiles) rather than the ITBS.

students. Gains in both reading and mathematics were similar to those reported for the entire Title-I population in the TARP and TAMP sections of this report.

Dunbar Components

Sides and Rainone (T179-344-31-30) reported on the evaluation of the development of Dunbar compensatory education components of the Title-I program. The Paul L. Dunbar Community Learning Center was established to develop an educational system which would meet the needs of culturally different, economically deprived children and their families. The Center developed and diffused successful programs to other schools dealing with similar populations. The Center also provided the support services to introduce these programs into the designated schools and monitored the quality of classroom implementation.

During 1978-79, development in compensatory education at Dunbar continued in two areas, science and music, and was initiated in three areas, early childhood education, staff training, and community services. The development efforts of the elementary science program, Conceptual Approach to Teaching Science (CATS), centered on the diffusion of third-grade materials to those schools requesting the curriculum. The three music components - Music for Little People (MLP), Success Through Strings (STS), Progress Through Piano (PTP) - were placed under the single banner, Learning to Learn Through Music, but each program continued its own developmental course. MLP was distributed to second-grade classrooms and piloted in third-grade classes. PTP and STS neared the end of their developmental phases and began functioning fully in their target schools. The Framework for Achieving Maximum Educational Development (FAMED) component served as the collective title for three development areas new to Dunbar this year. These areas were Early Childhood Education, Community Services, and teacher training (STYLE - Strategies for Teaching Young Learners Effectively). Needs assessments were the primary activities of these three groups although other goals (e.g., publication of a community services directory and the establishment of a teacher training center) were also proposed. In addition, development activities were established to provide intercultural materials for use in augmenting student motivation to read as well as enhancing self-concept through cultural awareness.

Results of classroom observations, teacher interviews, and teacher surveys relative to all the Dunbar classroom programs (MLP, STS, PTP, and CATS) indicated that the programs were implemented as proposed. Visits to strings and piano classes found that both programs were being taught smoothly and expertly and, for the most part, by teachers who had been involved with the program for several years. PTP and STS teachers reported that they experienced few problems, with the exception that appropriate classroom space was unavailable in several schools. Reports from teachers indicated that MLP was being implemented smoothly. All the teachers interviewed were pleased with the program, and they assessed their students' reaction to MLP to be very positive. Five of the interviewed teachers said that they had seen a relationship between the music activities and reading/language arts activities. Results of the CATS teacher survey revealed that approximately 89% of the third-grade teachers responding were implementing the program at that time. Comments from teachers were overwhelmingly positive about CATS.

A major activity common to the three FAMED components was the implementation of broad needs assessments in their respective areas. All three needs assessments were accomplished during the fall of 1978. The Early Childhood Education needs assessment was used to produce a master plan identifying ways to strengthen existing Title-I programs in the primary grades. The Community Services component used its needs assessment as the justification for using the school facilities for additional community activities such as continuing education classes, health services, recreation, and library services. Additionally, a directory of Community Services was published and distributed. The STYLE needs assessment resulted in a detailed analysis of school- and classroom-level needs based on responses from 858 teachers, 119 resource teachers, 50 principals, and 42 facilitators. Also, the STYLE staff established a demonstration teaching center.

Developmental activities in intercultural reading curriculum involved modules in storytelling, cuisine, poetry, music, and drama for use with students in grades kindergarten through three. Limited pilot testing in one school indicated a positive student response to the curriculum. Completion of the modules occurred in early summer, 1979, with plans for further piloting during the 1979-80 school year.

Criterion-referenced test results for all three music components indicated that the overwhelming majority of students were mastering the program objectives. For PTP, a general assessment of the criterion test rating sheets revealed that about 93% of the piano students were rated "outstanding" or "adequate" on the majority of the criteria. For students in STS, fall and spring goals were set at the beginning of each semester. Of the 244 students who set fall goals, 216 (88.5%) achieved their goal. In the spring, 175 (65.8%) of the 266 students attained their goals. Results of the MLP, Levels 1 and 2, criterion-referenced student evaluations indicated that more than 80% of the tested students mastered each of the objectives taught.

Tables 18 and 19 present ITBS reading and mathematics pre- and posttest scores for Dunbar students and students in comparison Title-I schools. These comparison schools (Brown, Harris, Hassell, Rhoads, and Rice) were chosen as comparable to Dunbar on the basis of similarity of student populations and approximately equivalent indices of socio-economic status (i.e., proportion of student population eligible for free lunch).

One-way analyses of covariance were computed for each grade level to test for significant differences between the reading and mathematics posttest means, adjusted for pretest means, of Dunbar and comparison students. Findings for reading were:

> Grade one--the adjusted posttest mean of Dunbar students was significantly lower than the adjusted posttest mean of comparison students.
>
> Grade two--there was no statistically significant difference between adjusted posttest means of the two groups.
>
> Grade three--the adjusted posttest mean of Dunbar students was significantly higher than the adjusted posttest mean of comparison students.

Findings for the mathematics analyses were as follows:

> Grade one--the adjusted posttest means of the two groups did not differ significantly.
>
> Group two--the adjusted posttest mean of Dunbar students was significantly higher than the adjusted posttest mean of comparison students.
>
> Grade three--there was no statistically significant difference between adjusted posttest means of the two groups.

Table 18

Iowa Tests of Basic Skills Reading Pre- and Posttest Scores for Students at Dunbar and Title-I Comparison Schools

		Dunbar			Comparison Schools[a]		
			Adjusted			Adjusted	
Grade		Pre	Post	Gain	Pre	Post	Gain
1	Mean G.E.	-	1.7		-	2.1	
	Std. Deviation	-	.57		-	.95	
	No. Students[b]	-	125		-	452	
	Median %ile	-	35		-	46	
2	Mean G.E.	1.8	2.4	0.6	1.9	2.3	0.4
	Std. Deviation	.69	.83		.79	.81	
	No. Students[b]	81	81		385	385	
	Median %ile	41	30		41	27	
3	Mean G.E.	2.4	3.2	0.8	2.5	2.8	0.3
	Std. Deviation	.90	1.21		.93	.95	
	No. Students[b]	99	99		388	388	
	Median %ile	33	29		38	21	

Note. ITBS pretest given in April, 1978, and posttest given in April, 1979. The pretest for first grade was the Metropolitan Readiness Tests, which did not yield grade equivalent scores.

[a] Includes Brown, Harris, Hassell, Rhoads, and Rice.

[b] Students having both pre- and posttest scores.

Table 19

Iowa Tests of Basic Skills Mathematics Pre- and Posttest Scores for Students at Dunbar and Title-I Comparison Schools

Grade		Dunbar Pre	Dunbar Adjusted Post	Dunbar Gain	Comparison Schools[a] Pre	Comparison Schools[a] Adjusted Post	Comparison Schools[a] Gain
1	Mean G.E.	-	1.6		-	1.7	
	Std. Deviation	-	.52		-	.62	
	No. Students[b]	-	124		-	449	
	Median %ile	-	24		-	39	
2	Mean G.E.	1.5	2.5	1.0	1.6	2.3	0.7
	Std. Deviation	.53	.67		.59	.89	
	No. Students[b]	82	82		385	385	
	Median %ile	24	29		29	22	
3	Mean G.E.	2.0	2.9	0.9	2.0	2.8	0.8
	Std. Deviation	.56	.74		.60	.83	
	No. Students[b]	95	95		377	377	
	Median %ile	15	20		15	13	

Note. ITBS pretest given in April, 1978, and posttest given in April, 1979. The pretest for first grade was the Metropolitan Readiness Tests, which did not yield grade equivalent scores.

[a] Includes Brown, Harris, Hassell, Rhoads, and Rice.

[b] Students having both pre- and posttest scores.

Targeted Achievement in Reading Program

Bouldin and Andrews (T179-340-31-01) reported on the evaluation of the Targeted Achievement in Reading Program (TARP). This supplemental reading program reinforced basal instruction by providing additional skill instruction in auditory and visual perception, word attack skills, comprehension, and communications. TARP relied on three reading systems: Behavioral Research Laboratories/Sullivan (BRL), Hoffman Information Systems, and Southwest Regional Laboratories/Ginn (SWRL). The academic objective for TARP specified that students in the 1978-79 program would outperform similar students who had been in the program in 1977-78 on the ITBS Reading Comprehension and Reading Vocabulary subtests.

TARP was implemented in 72 Title-I schools outside of the East Oak Cliff Subdistrict. During the year, 16,758 students in grades one through six were served by the program. The TARP staff included 74 IRTs, 20 1/2 Reading Demonstration Teachers and 116 1/2 teacher aides. BRL was assigned to 14 Title-I schools, Hoffman to 8 and SWRL to 36. Two schools used a combination of reading systems. The remaining 12 schools operated their supplemental reading programs under the CLPP as reported previously. According to IRTs, implementation of TARP began between the end of August to the middle of October, 1978. Two first-year Title-I schools, Blair and Weiss, had the longest delays due to late personnel placement and delivery of materials.

Most IRTs (83%) indicated that they were scheduled to assist TARP classes or groups on a regular basis. They reported spending an average of four hours per day on instructional tasks and an average of three hours a day on administrative duties. RDTs reported spending 4 to 5 1/2 hours per day on instruction and up to 1 1/2 hours per day on administrative tasks. RDTs reported assisting an average of seven classes a day. Teacher aides at BRL or SWRL schools usually assisted each of a number of teachers for from 30 to 60 minutes a day to provide TARP services to eligible students. In the Hoffman schools, aides worked in a laboratory setting with small groups of students for five to seven 30- to 45-minute periods each day.

Summary statistics for TARP students in each grade with pretest and posttest ITBS Reading Comprehension and Reading Vocabulary scores are shown in Tables 20 and 21. Both tables also include the same statistics for a comparable group of students from the 1977-78 TARP population. The statistics include the mean grade-equivalent score (mn), standard deviation (s), and sample size (n). In grade one, the pretest was the MRT which does not yield a grade-equivalent score. An examination of the tables reveals that pretest scores were about the same for the two groups. Posttest scores in Reading Comprehension and Reading Vocabulary were uniformly higher across all grades for the 1978-79 TARP population. Further analyses were done on the same scores with the results showing a lower percentage of 1978-79 TARP students having negative differences between pretest and posttest Reading Comprehension and Reading Vocabulary scores than did the 1977-78 TARP students. Also, a larger percentage of 1978-79 TARP students made grade-equivalent gains greater than one year's academic growth on the two tests than did the 1977-78 comparison group.

Table 20

Summary Statistics for
Reading Vocabulary
All TARP Students

		Grade					
		1	2	3	4	5	6
Pretest	mn	-	1.2	1.7	2.6	2.9	3.4
	s	-	.56	.66	.89	.92	1.05
1978-79	n	2686	1820	2014	2553	2666	2593
Posttest	mn	1.4	2.1	2.6	3.1	3.6	4.2
	s	.67	.86	.94	1.02	1.14	1.37
	Gain	-	.9	.9	.5	.7	.8
Pretest	mn	-	1.2	1.7	2.5	3.0	3.5
	s	-	.75	.73	.92	.95	1.10
1977-78	n	2353	1350	1700	1689	2216	2210
Posttest	mn	1.3	1.9	2.4	2.9	3.5	3.9
	s	.89	.79	.86	.96	1.12	1.28
	Gain	-	.7	.7	.4	.5	.4

Note: Average scores are grade equivalent scores. The pretest was administered in April, 1977, for 1977-78 and in April, 1978, for 1978-79. The posttest was administered in April, 1978, and April, 1979, for 1977-78 and 1978-79, respectively. Thus, for both 1977-78 and 1978-79 there was a one-year interval between tests.

Table 21

Summary Statistics for
Reading Comprehension
All TARP Students

		Grade					
		1	2	3	4	5	6
Pretest	mn	-	1.2	1.8	2.4	2.9	3.3
	s	-	.47	.64	.66	.81	.98
1978-79	n	2716	1789	2032	2571	2672	2600
Posttest	mn	1.6	2.0	2.5	3.1	3.7	4.2
	s	.70	.73	.90	.97	1.06	1.25
	Gain	-	.8	.7	.7	.8	.9
Pretest	mn	-	1.2	1.9	2.4	3.0	3.5
	s	-	.74	.70	.73	.88	1.03
1977-78	n	2329	1347	1703	1701	2224	2218
Posttest	mn	1.5	2.1	2.3	2.9	3.5	4.0
	s	.89	.95	.74	.92	1.10	1.25
	Gain	-	.9	.4	.5	.5	.5

Note: Average scores are grade equivalent scores. The pretest was administered in April, 1977, for 1977-78 and in April, 1978, for 1978-79. The posttest was administered in April, 1978, and April, 1979, for 1977-78 and 1978-79, respectively. Thus, for both 1977-78 and 1978-79 there was a one-year interval between tests.

Table 21

Summary Statistics for
Reading Comprehension
All TARP Students

		Grade					
		1	2	3	4	5	6
Pretest	mn	-	1.2	1.8	2.4	2.9	3.3
	s	-	.47	.64	.66	.81	.98
1978-79	n	2716	1789	2032	2571	2672	2600
Posttest	mn	1.6	2.0	2.5	3.1	3.7	4.2
	s	.70	.73	.90	.97	1.06	1.25
	Gain	-	.8	.7	.7	.8	.9
Pretest	mn	-	1.2	1.9	2.4	3.0	3.5
	s	-	.74	.70	.73	.88	1.03
1977-78	n	2329	1347	1703	1701	2224	2218
Posttest	mn	1.5	2.1	2.3	2.9	3.5	4.0
	s	.89	.95	.74	.92	1.10	1.25
	Gain	-	.9	.4	.5	.5	.5

Note: Average scores are grade equivalent scores. The pretest was administered in April, 1977, for 1977-78 and in April, 1978, for 1978-79. The posttest was administered in April, 1978, and April, 1979, for 1977-78 and 1978-79, respectively. Thus, for both 1977-78 and 1978-79 there was a one-year interval between tests.

Targeted Achievement in Mathematics Program

The evaluation of the Targeted Achievement in Mathematics Program (TAMP) was reported by Schroeder and Ferguson (T179-341-31-02). TAMP provided supplemental mathematics instruction to reduce the mathematics deficiencies of eligible Title-I students. Both materials and personnel were provided through TAMP. Materials were Mathematics for Individual Achievement (MIA) workbooks. Personnel included Mathematics Demonstration Teachers (MDTs), Mathematics Teacher Aides (MTAs), Instructional Resource Teachers (IRTs), and Instructional Facilitators (IFs) who, while not funded by Title-I, were assigned by the DISD to support instruction in Title-I schools. The instructional objective for TAMP specified that the 1978-79 TAMP student population would exceed the performance of the 1977-78 TAMP students on the Mathematics Total score of the ITBS.

TAMP served 17,430 students during the 1978-79 school year at 72 sites in the DISD (excluding the East Oak Cliff Subdistrict). Of the 72 schools, 12 operated their supplemental mathematics program as part of the CLPP as reported elsewhere in this document. In the 60 remaining schools an IRT had the responsibility for coordinating TAMP. A MDT was assigned at six schools where Title-I students were considered by program management to be most in need of mathematics support. A total of eight MTAs were assigned to seven TAMP sites (two of the schools also had MDTs). A total of 14 IFs were assigned among the TAMP sites. Each IF was also assigned non-Title-I schools. Classroom teachers were given the primary responsibility for implementing TAMP. Their intended tool was the MIA workbooks which they were supposed to use 20-30 on a daily basis. MDTs were to instruct small groups of TAMP students (8 to 12 per group) in mathematics during part of the regular mathematics instructional period in either the classroom or in a resource room. The MTAs were to assist the teachers, the MDTs, or the IRTs to instruct TAMP students in either the classroom or resource room.

Material dissemination was somewhat delayed and inconsistent. TAMP intended to provide each student with a MIA workbook to be used throughout the year. Approximately 24 of the 60 non-CLPP sites received MIA material in November, 1978. The remaining schools received the same material in December, January, or February. Fortunately, some schools had a supply of unused MIA workbooks left from the previous year with which to begin the school year.

Usage of MIA varied widely. Approximately two-thirds of the teachers surveyed in February and March, 1979, reported using MIA two or three times a week; about one-fourth said they used it daily. Observations found that this usage was not always with every TAMP student. A clear pattern of the use of both the basal text and MIA with all TAMP students in a correlated fashion was not observed.

TAMP achievement results were assessed by comparing ITBS Mathematics Total scores of the 1978-79 TAMP students and 1977-78 TAMP students. Table 22 shows the results of the analysis by grade. Mean grade-equivalent scores (mn), standard deviations (s), and sample sizes (n) are shown for the two groups of students. It can be seen that while the pretest scores for the two groups were approximately the same, the 1978-79 students consistently outgained the comparison group. Further

Table 22

Summary Statistics for
Mathematics
All TAMP Students

		Grade					
		1	2	3	4	5	6
Pretest	mn	-	1.2	1.9	2.6	3.0	3.4
	s	-	.41	.54	.61	.68	.86
1978-79	n	2723	1872	2669	2621	2633	2658
Posttest	mn	1.5	2.1	2.9	3.4	3.9	4.6
	s	.59	.70	.83	.86	.96	1.26
	Gain		.9	1.0	.8	.9	1.2
Pretest	mn	-	1.2	1.9	2.5	3.1	3.6
	s	-	.65	.57	.63	.74	.91
1977-78	n	2326	1363	2083	1566	2081	2277
Posttest	mn	1.4	1.8	2.7	3.0	3.5	4.1
	s	.53	.55	.72	.80	.98	1.16
	Gain	-	.6	.8	.5	.4	.5

Note: Average scores are grade equivalent scores. The pretest was administered in April, 1977, for 1977-78 and in April, 1978, for 1978-79. The posttest was administered in April, 1978, and April, 1979, for 1977-78 and 1978-79, respectively. Thus, for both 1977-78 and 1978-79 there was a one-year interval between tests.

analyses of the performance of the two groups of students on the same criterion were done. As a result, it was noted that a smaller percentage of 1978-79 TAMP students had grade-equivalent losses from pretest to posttest. Also, a larger percentage of the 1978-79 TAMP students made grade-equivalent gains exceeding one year's academic growth than did 1977-78 TAMP students.

While the achievement data indicated a complete attainment of the TAMP objective, they were inconsistent with the level of implementation observed. Other than improvements in program management, TAMP implementation looked much the same in 1978-79 as it had in 1977-78. The reliance upon one supplementary workbook and the small number of MDTs and MTAs spread over a large number of program sites caused evaluators to conclude that other factors in addition to TAMP contributed to the improved achievement gains.

East Oak Cliff Title-I Personnel Development Center

The East Oak Cliff Title-I Personnel Development Center was the subject of an evaluation report by Andrews (T179-345-35-16). The Center was designed to provide on-going staff training for East Oak Cliff Subdistrict personnel involved with Title-I programs. The Center had as its objectives that (a) all administrators who managed a Title-I program in the East Oak Cliff Subdistrict would receive a 15-hour workshop, (b) all other Title-I personnel would attend 15 hours of training, and (c) 50% of the Parent Advisory Committee members would attend a 15-hour workshop. The personnel in the 16 East Oak Cliff schools not involved in the CLPP were contacted to determine their participation in the Center's staff training programs. Included were 16 IRTs, 23 RDTs, 16 MDTs, 2 Kindergarten Demonstration Teachers, 57 reading aides, 16 mathematics aides, 23 kindergarten aides, and 5 bilingual aides.

Participants in the Center's training activities were drawn from all levels of the East Oak Cliff Subdistrict. Administrators attended some sessions as learners and others as teachers. All administrators who managed Title-I programs received 15 hours of training designed to aid them in assisting Title-I students. All federally-funded professional personnel also met the objective of attending 15 hours of training designed to (a) assist them in understanding the special needs of a minority urban student population and (b) equip them to aid the academic growth of Title-I students more effectively. However, only 62.5% of the paraprofessionals received the 15 hours of training stipulated in the proposal. Many paraprofessionals expressed a need and desire for more training. Finally, records showed that 34 parent workshops were held in the East Oak Cliff Subdistrict where 692 people received information about Title-I programs. The conclusion was that the parent involvement objective of the Center was met.

East Oak Cliff Title-I Bilingual Program

Andrews documented the evaluation of the East Oak Cliff Title-I Bilingual Education Program (BEP) in report T179-345-34-09. The BEP was designed to meet the instructional needs of students in the East Oak Cliff Subdistrict with limited English-speaking ability. In three schools (Budd, Johnston, and Seguin), the BEP was to provide eligible Title-I students with relevant materials and instruction in their dominant language. The academic objective was that 80% of the BEP students would make grade-equivalent gains of from 1.0 to 1.5 months per month of instruction while the remaining 20% would make gains of from .5 to 1.0 as measured by the ITBS.

The East Oak Cliff BEP served 102 students in three schools in grades one through six. Five bilingual teacher aides were assigned to the three schools; all were Hispanic women. A Bilingual Resource Teacher was hired in March, 1979.

The late hiring of the Bilingual Resource Teacher hindered the BEP's implementation. Materials were ordered in March. One of the three schools had no bilingual teachers; all instruction in Spanish was done by the aide in the resource room. The other two schools had bilingual teachers; there the aides worked with classroom teachers.

BEP students' achievement was measured by the Reading Comprehension and Reading Vocabulary subtests of the ITBS. Table 23 shows the results of the analysis. The objective that 80% of the students gain one month's achievement for one month's instruction was not met in any grade on either subtest. Achievement in reading comprehension was moderate in fourth and fifth grade. Results on the Reading Vocabulary subtest were not as positive as on the Reading Comprehension subtest.

Table 24 shows a pretest-posttest analysis of ITBS grade-equivalent scores for BEP students. With the exception of sixth-grade students' performance on the Reading Comprehension subtest, gains were made on both subtests by all grades. It is not unreasonable to speculate that gains may have been larger if the program had received a higher level of implementation and if the limited English proficiency students were

Table 23

EOC Title-I Bilingual Program Student Gain Distribution Per Month Instruction on the ITBS Reading Comprehension and Vocabulary Subtests in Grade Equivalents for 1978-79

		Grade Equivalent Gain[a]				
Grade		0.0 or Less	At Least .1	At Least .5	At Least 1.0	n
1	Comprehension	0.0%	100.0%	84.4%	59.4%	32
	Vocabulary	3.1	96.9	68.8	43.8	32
2	Comprehension	34.8	65.2	52.1	34.7	23
	Vocabulary	34.8	65.2	52.1	30.4	23
3	Comprehension	25.0	75.0	50.0	25.0	8
	Vocabulary	0.0	100.0	87.5	37.5	8
4	Comprehension	25.0	75.0	66.7	50.0	12
	Vocabulary	25.0	75.0	66.7	50.0	12
5	Comprehension	0.0	100.0	71.5	42.9	7
	Vocabulary	42.8	57.2	42.9	42.9	7
6	Comprehension	50.0	50.0	37.5	25.0	8
	Vocabulary	12.5	87.5	75.0	37.5	8

[a] Gains above 0.0 are cumulative. Gains at grade 1 were determined by arbitrarily assignin a pretest score of .6. Gains are calculated between April, 1978, and April, 1979,

Table 24

Reading Comprehension and Vocabulary Mean Grade Equivalents for EOC Bilingual Students

Grade	Number of Students	Mean Grade Equivalent		Gain
		Pretest	Posttest	
		Reading Comprehension		
1	32	.6[a]	1.6	1.0
2	23	1.6	2.1	.5
3	8	1.8	2.1	.3
4	12	2.4	3.1	.7
5	7	2.7	3.6	.9
6	8	3.3	3.3	.0
		Vocabulary		
1	32	.6[a]	1.3	.7
2	23	1.3	1.9	.6
3	8	1.2	2.3	1.1
4	12	2.5	2.8	.3
5	7	2.9	3.4	.5
6	8	2.9	3.7	.8

[a] Gains at Grade 1 were determined by arbitrarily assigning a pretest score of .6.

measured with an instrument which was more sensitive to their English language skills.

East Oak Cliff Title-I Multicultural Social Studies Program

Andrews (T179-345-33-03) reported on the evaluation of the East Oak Cliff Title I Multicultural Social Studies Program (MSSP). This program was to provide supplemental social studies enrichment activities for Title-I students in kindergarten through sixth grades on 19 campuses. The academic objective called for 75% of MSSP students to show a 25% gain on the Social Studies Criterion-Referenced Mastery Test. The remaining 25% of the students were to show a gain of 10% on the test.

The MSSP involved over 7,200 eligible students. Two MSSP Resource Teachers provided assistance to each school's IRT and also to classroom teachers. IRTs retained responsibility for coordinating the entire Title-I effort at each campus.

MSSP personnel were in place at the start of the school year. Materials were in ample supply early. Unscheduled classroom observations found MSSP in use in half of the classes; however, it was being provided to all students in classes regardless of Title-I eligibility.

A sample of MSSP students was pretested and posttested with the criterion-referenced instrument. Pretests were given early in November, 1978, and posttests in early May, 1979. Average pretest and posttest scores are shown in Table 25. High pretest scores for students in kindergarten and first grade indicate that these tests may be too easy. The results show a gain from pretest to posttest except in the fourth grade where a loss occurred. Largest gains were in first and second grades.

Table 25

Pretest and Posttest Scores on the MSSP Criterion-Referenced Mastery Test for Matched Sample

Grade	Number of Test Items	Number of Students	Mean Raw Score	Standard Deviation	% Correct for Mean
			Pretest		
K	19	66	14.9	3.3	78.4
1	15	84	9.5	3.2	63.3
2	14	49	6.1	3.6	43.6
3	18	135	8.7	2.6	48.3
4	25	52	11.7	5.1	46.8
5	25	92	7.9	3.1	31.6
6	25	91	11.6	4.7	46.4
			Posttest		
K	19	66	17.7	1.8	93.2
1	15	84	12.3	2.5	82.0
2	14	49	9.3	3.4	66.4
3	18	135	10.0	2.6	55.6
4	25	52	10.2	4.1	40.8
5	25	92	9.4	3.5	37.5
6	25	91	12.6	3.9	50.4

The sample was also used to assess the progress of individual students in the MSSP according to the objective. Kindergarten and first-grade students came closest to the objective with 64% making at least a 25% gain (or a perfect score) and with 20% and 18%, respectively, gaining at least 10% (or making a perfect score).

East Oak Cliff Supplemental Mathematics Program

Andrews (T179-345-32-02) reported on the evaluation of the Title-I East Oak Cliff Supplemental Mathematics Program (SMP). . SMP was designed to be an individualized supplement to the DISD baseline mathematics program for eligible students who had deficiencies in mathematics. A multiplicity of materials was to be employed for this purpose. At the Maynard Jackson campus the program contained an additional dimension: computer-assisted instruction (CAI). IRTs, MDTs and mathematics aides were the persons at the schools who were to implement the program. The academic objective for the program called for 80% of the SMP kindergarten students to master at least 75% of the DISD kindergarten mathematics objectives while the remaining 20% were to master 50% of them. At the higher grades, 80% of the SMP students were to make a gain of 1.0 months academically (ITBS grade-equivalent score) for each month of instruction; the remaining 20% were to gain .5 months per month.

SMP participants were in all 19 Title-I schools in the East Oak Cliff Subdistrict. A total of 8,766 students received SMP services. Each campus had an IRT to coordinate Title-I programs at the school. Each site except McMillan was assigned one MDT and one aide. Additionally, 26 kindergarten paraprofessionals were to devote half of their time to SMP.

Process evaluation was done on the 16 campuses not involved in the CLPP. With one exception, IRTs reported that SMP began in the fall without delay; one IRT cited late materials as the reason for delay. A multiplicity of materials was available for use. All schools had at least two kinds of materials; most schools reported four or more. Students most in need of supplemental mathematics instruction were designated as priority students. These students received supplementary assistance from the MDT at least twice a week and from the mathematics aide at least once a week. Other SMP students received assistance from the Title-I staff on a less regular and less frequent basis although over 70% of the MDTs reported these students received daily supplemental instruction from their classroom teachers. All 15 MDTs followed regular, written schedules for instructing students and also provided assistance to classroom teachers.

SMP achievement in kindergarten was monitored by the DISD Diagnostic Mathematics Test which measures baseline objectives. There were 19 mathematics baseline objectives for kindergarten students to master. Table 26 shows the SMP kindergarten students' performance. Almost half of the students mastered 14 or more of the 19 objectives; almost 85% mastered 9 or more. Although the stated objective was not met, it was felt by the evaluator that since the objective was not determined empirically from past students' performance it was likely set too high in optimism. The median number of objectives completed by the 992 students was 13.

Table 26

Achievement of baseline Mastery Objectives
by EOC Title-I Kindergarten Students

Number of Objectives Mastered	Number of Students	% of Students
0-3	26	2.6
4-8	128	12.9
9-13	297	29.9
14-19	541	54.5
Total	992	100.0

Kindergarten SMP students were also compared to the similar group from 1977-78 using MRT Total Battery scores. Table 27 shows the analysis. The decile distributions for the two groups are similar.

SMP achievement in first through sixth grades was measured by the mathematics section of the ITBS. Performance on the ITBS was compared to the objectives set by program management and also to the performance of SMP students in 1977-78. Table 28 contains the program objective and Table 29 presents the gain distributions from the two years.

Although the SMP objectives were not completely attained in any grade 1978-79 SMP student achievement was greatly improved over the comparison group of 1977-78 SMP students. In the fifth and sixth grades a smaller percentage of 1978-79 SMP students showed no gain on the ITBS and a much larger percentage demonstrated month-per-month gains than the group of

Table 27

Number and Percent of EOC Title-I Kindergarten Students in Each Decile Group on the MRT 1977-78 and 1978-79

Decile Group	1977-78		1978-79	
	n	%	n	%
1st (1- 9)	215	19.9	143	18.0
2nd (10-19)	184	17.0	135	17.0
3rd (20-29)	172	15.9	133	16.8
4th (30-39)	115	10.6	98	12.4
5th (40-49)	99	9.2	78	9.8
6th (50-59)	78	7.2	62	7.8
7th (60-69)	72	6.7	61	7.7
8th (70-79)	56	5.2	36	4.5
9th (80-89)	52	4.8	31	3.9
10th (90-99)	38	3.5	16	2.0
Total	1081	100.0	793	100.0

Table 28

EOC Supplemental Mathematics Program
Objective for Grades 1-6
Expected Grade-Equivalent Score Gains
from Spring 1978 to Spring 1979

	Gain			
	0.0 Years or Less	At Least .1 Years	At Least .5 Years	At Least 1.0 Years
Percentage in Category	0.0	100.0	100.0	80.0

Table 29

EOC Title-I Student Gain Distribution (in Percents)
on the ITBS Mathematics Total
Actual Grade-Equivalent Score Gains from
Spring 1978 to Spring 1979

		Gain				
Grade	Year	0.0 Years or Less	At Least .1 Years	At Least .5 Years	At Least 1.0 Years	N
1	1978-79	3.3%	96.7%	82.6%	56.1%	1146
	1977-78	2.2	97.8	76.4	44.6	1013
2	1978-79	9.6	90.4	78.0	48.0	764
	1977-78	13.1	86.9	65.5	28.4	795
3	1978-79	9.3	90.8	77.0	52.2	1275
	1977-78	10.8	89.2	69.7	33.6	1031
4	1978-79	20.6	79.4	61.8	35.7	1213
	1977-78	24.2	75.8	55.4	26.1	854
5	1978-79	16.1	83.9	64.9	39.2	1094
	1977-78	22.8	75.4	51.7	24.6	923
6	1978-79	13.0	87.0	74.6	49.8	1248
	1977-78	22.6	77.4	54.0	26.2	982

[a] Gains above 0.0 are cumulative. Gains at Grade 1 are determined by arbitrarily assigning a pretest score of .6. Progress is shown by the 0.0 category decreasing relative to last year's percentage; for the other categories an increase is the goal.

students from 1977-78. First- through fourth-grade students also showed a definite increase in the percentage demonstrating month-per-month gains.

Table 30 shows pretest and posttest ITBS mathematics grade-equivalent scores by grade for 1977-78 and 1978-79. An increase in the number (n) of students served by SMP is apparent. Mean (mn) posttest scores for the 1978-79 program are higher than those for the previous year although the scores still indicate serious educational deprivation. Standard deviations (s) among the cells are consistent. The table indicates the success of the 1978-79 SMP students compared to the group a year before them.

Mathematics scores from the ITBS were also used to assess the impact of the CAI operating at Maynard Jackson school. There were 446 students eligible for SMP; matched pretest and posttest scores were available for 345 (77%) of the eligible students. Table 31 shows CAI student gains. Comparing Table 31 to Table 30 reveals that a smaller percentage of SMP students at Jackson made no grade-equivalent gain on the ITBS than the general SMP population. Also, fourth-grade performance at Jackson was considerably better than that of SMP students generally.

Table 32 compares the grade-equivalent gains made at Jackson by SMP students in 1978-79 to gains made by a similar group in 1977-78 and also to all SMP students from the two years. Although the fourth-grade SMP students at Maynard Jackson who used the CAI equipment made smaller gains in 1978-79 than the year before, the performance was still above the whole group of SMP participants. A similar pattern existed at the fifth grade. While the presence of a Vanguard instructional approach at Jackson confounds the results of the Title-I program, fourth and fifth

Table 30

Mean Pretest and Posttest Scores by Grade for
EOC Title-I Mathematics Students

			Grades					
			1	2	3	4	5	6
1978-79	Pre	mn	-	1.3	1.9	2.6	3.0	3.4
		s	-	.5	.5	.6	.7	.9
		n	-	764	1275	1213	1094	1248
	Post	mn	1.6	2.1	2.8	3.2	3.6	4.3
		s	.6	.7	.8	.9	1.0	1.1
		n	1146	764	1275	1213	1094	1248
1977-78	Pre	mn	-	1.3	2.0	2.6	2.9	3.4
		s	-	.6	.6	.7	.7	.9
		n	-	795	1031	854	923	982
	Post	mn	1.5	1.9	2.6	3.1	3.4	4.0
		s	.6	.6	.7	.8	1.0	1.0
		n	1013	795	1031	854	923	982

Note. 1978-79: pretest in April 1978 and posttest in April 1979

1977-78: pretest in April 1977 and posttest in April 1978

Table 31

Maynard Jackson Title-I Student Gain Distribution (in Percents) on the ITBS Mathematics Total: Grade-Equivalent Score Gains from Spring 1978 to Spring 1979

	Gain				
Grade	0.0 Years or Less	At Least .1 Years	At Least .5 Years	At Least 1.0 Years	N
4	6.7	93.3	81.5	53.3	135
5	6.8	93.2	73.8	40.8	103
6	8.4	91.6	78.5	54.2	107

Table 32

Achievement Gains of all SMP Participants and Participants at Maynard Jackson as Measured by the Mathematics Total of the ITBS, 1977-78 and 1978-79

Grade	Year	n	Grade Equivalent Pretest Average	Grade Equivalent Posttest Average	Grade Equivalent Average Gain
			SMP Participants		
4	1978-79	1213	2.6	3.2	0.6
	1977-78	854	2.6	3.1	0.5
5	1978-79	1094	3.0	3.6	0.6
	1977-78	923	2.9	3.4	0.5
6	1978-79	1248	3.4	4.3	0.9
	1977-78	982	3.4	4.0	0.6
			SMP Participants at Maynard Jackson (CAI Instruction)		
4	1978-79	135	2.5	3.4	0.9
	1977-78	33	2.4	3.6	1.2
5	1978-79	103	3.1	3.9	0.8
	1977-78	32	3.2	4.1	0.9
6	1978-79	107	3.6	4.5	0.9
	1977-78	61	3.6	4.5	0.9

grade achievement there does suggest that the CAI system may be beneficial to students making the transition from primary to intermediate schools.

East Oak Cliff Supplemental Reading/Language Arts Program

Andrews (T179-345-31-01) reported on the evaluation of the East Oak Cliff Supplemental Reading/Language Arts Program (SR/LAP) for 1978-79. The SR/LAP was designed to provide supplemental reading instruction and reinforcement in addition to, and correlated with, the baseline curriculum for eligible Title-I students in 19 East Oak Cliff Subdistrict schools. Both human and material resources were to be used in the SR/LAP. IRTs and RDTs were to provide direct instruction to eligible students and work with classroom teachers to insure a coordinated effort. Reading paraprofessionals were to work with small groups of eligible students on tasks identified by the classroom teachers. Kindergarten paraprofessionals were to spend half of their time assisting with reading instruction. A multiplicity of materials that would complement the DISD curriculum were to be available on each campus. In addition to the regularly supplied DISD materials and the supplemental SR/LAP materials the Maynard Jackson Vanguard was to continue to use CAI.

The academic objectives for the SR/LAP called for 80% of the kindergarten students to demonstrate mastery of 75% or more of the DISD baseline reading objectives; the remaining 20% of SR/LAP kindergarten students were to master 50% or more. Further, SR/LAP students in grades one through six were to demonstrate achievement on the ITBS: 80% of the students were to gain 1.0 month of achievement (grade-equivalent score) or more for each month of instruction. The remaining 20% were to make .5 months or more per month of instruction.

The SR/LAP was in 19 Title-I schools in the East Oak Cliff Subdistrict. A total of 8,351 students received SR/LAP services. Each campus had one IRT and one or two RDTs to provide supplementary instruction. A total of 68 reading paraprofessionals were assigned among the campuses. Additionally, the 14 schools with kindergartens each had from 1 to 3 of 26 kindergarten aides who were to devote half of their time to assist with reading instruction. At Jackson, a CAI aide was to devote half time to SR/LAP.

Implementation of the SR/LAP was assessed in the schools not involved in the CLPP. Only one IRT reported any delay in SR/LAP start-up; that was due to late arrival of materials. All IRTs and all but one RDT were in place at the beginning of the school year. The missing RDT was assigned in November. Positions for two reading aides and one kindergarten aide were unfilled at the beginning of the year but were filled later.

The most educationally deprived students were designated priority students. Of the 23 RDTs surveyed, 19 reported these priority students received supplementary reading instruction from them at least twice a week and all RDTs said that an aide provided reinforcement activities at least as often. Most other Title-I eligible students were reportedly served as frequently. IRTs reported spending 25% of their working day, on the average, instructing SR/LAP students. Over half of the IRTs reported following regular weekly schedules. All of the RDTs had written schedules for instructing students, and all but one reported providing assistance to classroom teachers.

SR/LAP achievement in kindergarten was measured by the DISD Test of Essential Reading Skills (TERS) and Test of Essential Writing Skills. Tables 33 and 34 show the analyses. In reading almost 75% of the SR/LAPstudents mastered 6 or more of the 11 objectives and almost 40% mastered 9 or more. Performance on the writing objectives was very good; over 90% of the SR/LAP students mastered 3 or more of the 6 objectives and almost half mastered 100% of the objectives. Although the program goal of 80% of the students mastering 75% of the objectives and all students mastering at least 50% was not met, the performance of the SR/LAP kindergarten students was encouraging. Since the goal was not set empirically based on known past performance, it was felt by the evaluator to have been set optimistically high.

Spring, 1979, and Spring, 1978, scores from the MRT were also compared to assess the performance of kindergarten students in the SR/LAP. MRT Total Battery percentile score distributions and MRT Pre-Reading subtest percentile score distributions for the two years were both compared. When the two scores were compared to like scores from the previous year, the distributions of the two were almost identical with over 70% of the students scoring below the 50th percentile.

SR/LAP students' performance on the Reading Comprehension and Reading Vocabulary subtests of the ITBS were the basis for evaluating the program in grades one through six. Results from the 1978-79 SR/LAP were compared to the objectives set by program management and also to performance of a

Table 33

Number and Percent of EOC Title-I Kindergarten Students Completing Reading Mastery Objectives

Number of Objectives Completed	Number of Students	Percent of Students	Cumulative Percent
11	172	17.7	17.7
10	76	7.8	25.5
9	118	12.1	37.6
8	127	13.1	50.7
7	122	12.5	63.2
6	100	10.3	73.5
5	91	9.4	82.8
4	53	5.4	88.3
3	45	4.6	92.9
2	40	4.1	97.0
1	20	2.1	99.1
0	9	0.9	100.0
Total	973	100.0	

Table 34

Number and Percent of EOC Title-I Kindergarten Students Completing Writing Mastery Objectives

Number of Objectives Completed	Number of Students	Percent of Students	Cumulative Percent
6	464	47.3	47.3
5	192	19.6	66.9
4	167	17.0	84.0
3	90	9.2	93.2
2	37	3.8	96.9
1	22	2.2	99.2
0	8	0.8	100.0
Total	980	100.0	

comparable group of SR/LAP students from 1977-78. Table 35 shows the SR/LAP objective and Tables 36 and 37 show distributions of ITBS grade-equivalent gains in reading comprehension and vocabulary respectively. The SR/LAP objective was for 80% of the students to make at least a 1.0 month achievement gain for each month of instruction. Although the SR/LAP objectives were not met in any grade on either test, the results were encouraging since gains per month of instruction were higher in 1978-79 than they were in 1977-78. Second-grade reading comprehension gains for 1978-79 equalled the very high gains of the year before. First-, fourth-, fifth-, and sixth-grade students all showed an upward shift in the gains distribution over the previous year. Third-grade students showed the greatest improvement. On the vocabulary subtest, all grades registered gains over last year's SR/LAP performance.

Tables 38 and 39 show mean pretest and posttest scores by grade for all SR/LAP students from 1977-78 and 1978-79 in reading comprehension and vocabulary, respectively. Mean pretest scores were essentially the same for the two years. A comparison of the gains produced by the SR/LAP during the two different years reflects a more successful program during the 1978-79 school year.

The CAI at Maynard Jackson Vanguard school was also assessed using reading comprehension and vocabulary grade-equivalent scores from the ITBS. There were 441 SR/LAP students at Jackson although not all students had matched pretest and posttest scores. Tables 40 and 41 show an analysis of the CAI system at Jackson, comparing the reading comprehension and vocabulary scores to previous years and to the

Table 35

EOC Supplemental Reading/Language Arts Program Objectives for Grades 1-6

Percentage in Category	0.0 or less	At Least .1	At Least .5	At Least 1.0
	0.0	100.0	100.0	80

Table 36

EOC Title-I Student Grade Equivalent Score Gain Distribution (in Percentages) Per Month Instruction on the ITBS Reading Comprehension Subtest for 1978-79 and 1977-78

		Gain in Months[a]				
Grade	Year	0.0 or Less	At Least .1	At Least .5	At Least 1.0	n
1	1978-79	2.6	97.4	90.5	58.2	1179
	1977-78	4.0	96.0	84.2	44.6	988
2	1978-79	15.0	85.0	70.1	49.0	833
	1977-78	14.2	85.8	70.3	47.5	824
3	1978-79	22.6	77.4	56.4	32.9	910
	1977-78	30.2	69.8	40.9	16.2	801
4	1978-79	23.0	77.0	60.0	37.2	1150
	1977-78	25.3	74.7	55.1	31.2	855
5	1978-79	25.0	75.0	60.8	40.5	1152
	1977-78	29.3	70.7	53.6	29.4	899
6	1978-79	23.0	77.0	65.0	45.7	1212
	1977-78	26.0	74.0	53.5	27.2	891

[a] Gains above 0.0 are cumulative. Gains at Grade 1 were determined by arbitrarily assigning a pretest score of .6. Progress was shown by the 0.0 category decreasing relative to last year's percentage; for the other categories an increase was the goal.

Table 37

EOC Title-I Student Grade Equivalent Score Gain Distribution (in Percentages) Per Month Instruction on the ITBS Reading Vocabulary Subtest for 1978-79 and 1977-78

		Gain in Months[a]				
rade	Year	0.0 or Less	At Least .1	At Least .5	At Least 1.0	n
1	1978-79	5.9	94.1	69.5	36.4	1168
	1977-78	6.1	93.9	61.9	31.3	993
2	1978-79	14.0	86.0	69.6	53.1	829
	1977-78	21.4	78.6	60.0	33.6	824
3	1978-79	17.0	83.0	67.2	43.1	906
	1977-78	17.8	82.2	60.4	30.1	798
4	1978-79	28.8	71.2	52.7	32.0	1147
	1977-78	32.1	67.9	46.5	22.5	850
5	1978-79	28.9	71.1	53.1	33.8	1148
	1977-78	31.8	68.2	48.7	26.7	896
6	1978-79	22.9	77.1	65.1	48.8	1210
	1977-78	26.4	73.6	52.9	26.7	887

[a] Gains above 0.0 are cumulative. Gains at Grade 1 were determined by arbitrarily assigning a pretest score of .6. Progress was shown by the 0.0 category decreasing relative to last year's percentage; for the other categories an increase was the goal.

Table 38

Mean Pretest and Posttest Scores by Grade for EOC Title-I SR/LAP Students on the Reading Comprehension Subtest

			Grade					
			1	2	3	4	5	6
1978-79	Pre	mn		1.4	1.9	2.4	2.9	3.3
		s		.6	.8	.7	.8	1.0
		n		833	910	1150	1152	1212
	Post	mn	1.9	2.2	2.5	3.0	3.5	4.0
		s	3.2	.8	.8	.8	1.1	1.3
		n	1179	833	910	1150	1152	1212
1977-78	Pre	mn		1.3	2.0	2.5	2.9	3.4
		s		.7	.8	.8	.9	1.0
		n		824	801	855	899	891
	Post	mn	1.6	2.2	2.3	3.0	3.4	3.9
		s	.7	.9	.7	.9	1.2	1.2
		n	988	824	801	855	899	891

Note. 1978-79: pretest in April 1978 and posttest in April 1979
1977-78: pretest in April 1977 and posttest in April 1978

Table 39

Mean Pretest and Posttest Scores by Grade for EOC Title-I SR/LAP Students on the Vocabulary Subtest

			Grade					
			1	2	3	4	5	6
1978-79	Pre	mn		1.3	1.8	2.6	2.9	3.3
		s		.6	.7	.9	.9	1.0
		n		829	906	1147	1148	1210
	Post	mn	1.4	2.2	2.6	3.0	3.4	4.2
		s	.7	.9	1.0	.9	1.1	1.5
		n	1168	829	906	1147	1148	1210
1977-78	Pre	mn		1.3	1.8	2.6	2.9	3.4
		s		.7	.8	1.0	.9	1.1
		n		824	798	850	896	887
	Post	mn	1.4	2.0	2.4	3.0	3.4	3.9
		s	.8	.8	.9	.9	1.1	1.2
		n	993	824	798	850	896	887

Note. 1978-79: pretest in April 1978 and posttest in April 1979
1977-78: pretest in April 1977 and posttest in April 1978

Table 40

Achievement Gains of All SR/LAP Participants and SR/LAP Participants at Maynard Jackson as Measured by the Reading Comprehension Subtest of the ITBS, 1977-78 and 1978-79

Grade		n	Grade Equivalent Pretest Average	Grade Equivalent Posttest Average	Grade Equivalent Average Gain
			All SR/LAP Participants		
4	1978-79	1150	2.4	3.0	.6
	1977-78	855	2.5	3.0	.5
5	1978-79	1152	2.9	3.5	.6
	1977-78	899	2.9	3.4	.5
6	1978-79	1212	3.3	4.0	.7
	1977-78	891	3.4	3.9	.5
			SR/LAP Participants at Maynard Jackson		
4	1978-79	127	2.4	3.2	.8
	1977-78	46	2.8	3.4	.6
5	1978-79	115	3.0	3.8	.8
	1977-78	58	3.1	3.9	.8
6	1978-79	99	3.4	4.2	.8
	1977-78	68	3.4	4.3	.9

Table 41

Achievement Gains of All SR/LAP Participants and SR/LAP Participants at Maynard Jackson as Measured by the Vocabulary Subtest of the ITBS, 1977-78 and 1978-79

Grade		n	Grade Equivalent Pretest Average	Grade Equivalent Posttest Average	Grade Equivalent Average Gain
			All SR/LAP Participants		
4	1978-79	1147	2.6	3.0	.4
	1977-78	850	2.6	3.0	.4
5	1978-79	1148	2.9	3.4	.5
	1977-78	896	2.9	3.4	.5
6	1978-79	1210	3.3	4.2	.9
	1977-78	887	3.4	3.9	.5
			SR/LAP Participants at Maynard Jackson		
4	1978-79	128	2.5	3.1	.6
	1977-78	46	2.9	3.2	.3
5	1978-79	115	2.9	3.6	.7
	1977-78	58	2.9	3.7	.8
6	1978-79	99	3.3	4.1	.8
	1977-78	68	3.6	4.1	.5

performance of the entire SR/LAP group. During the 1978-79 school year in reading comprehension the CAI students outperformed the general SR/LAP population. On the vocabulary subtest, fourth- and fifth-grade CAI students made larger gains than the SR/LAP population. Fourth-grade CAI students in 1978-79 made larger average gains on both subtests than did similar students in 1977-78. Sixth-grade CAI students in 1978-79 made larger gains on the vocabulary subtest than did comparable students in 1977-78.

Community Involvement Program

Rutherford and Andrews (T179-349-31-11) reported on the evaluation of the 1978-79 Title-I Community Involvement Program (CIP). The CIP was developed to assist parents of Title-I students to become more involved in the school learning process. Strategies to this end included: (a) local Parent Advisory Councils (PACs) on all Title-I campuses, (b) community school programs, (c) workshops for parents on Title-I instructional programs, and (d) parent education workshops. The CIP had five objectives: (a) to follow-up on all referrals to CIP personnel, (b) to have a parent ombudsman present at every PAC meeting, (c) to have at least one Title-I instruction workshop and one parent education workshop at each school, (d) in the East Oak Cliff Subdistrict, to have parents of at least 50% of Title-I students participate in activities to provide them with teaching strategies they could use with their children, and (e) in the East Oak Cliff Subdistrict, to attain a 25% reduction in the number of absences among Title-I students.

Process evaluations showed that the CIP was implemented as proposed except that eight schools did not have the services of a parent ombudsman. Two vacancies caused this situation; one vacancy occurred December 15, 1978, the other February, 28, 1979. Neither vacancy was filled. Two vacancies occurred during the year in the liaison/paraprofessional staff, but no community school operations were affected. A PAC was established on every campus; 557 PAC meetings were held with 6,224 parents attending. CIP professionals organized and provided 218 workshops and/or activities that were attended by 2,622 parents.

District-wide, referrals to the CIP staff totaled 22,356. Parent ombudsmen/specialists received 16,700 (75%) of the referrals. Of the ones they received, 12,050 (72%) were attendance related and parent ombudsmen/specialists made 22,937 home visits in response to them, an average of 1.4 home visits per referral. In East Oak Cliff the average was 2.0. Paraprofessionals received 5,656 referrals, 25% of the total. Of these 4,492 (79%) were attendance related and paraprofessionals made 10,217 home visits answering referrals, an average of 1.8 visits per referral. In the East Oak Cliff Subdistrict, the average was 2.1

A sample of 1,378 students were randomly selected from the case records of parent ombudsmen to be analyzed for attendance patterns. From the sample, attendance records were examined each six weeks to determine if any improvement in attendance during the school year could be noted. The percentage of days attended for the group was between 71% and 75% for the first, second, fourth, and fifth six-weeks attendance periods. For the third attendance period the figure was 67%. Attendance records from the same sample were matched for the 1977-78 and 1978-79 school years.

An analysis of the data was done to determine any reductions in abseenteeism. Table 42 shows the results of the analysis; between 64% and 68% of the sample achieved the 25% reduction specified in the CIP objective.

Table 42

Percentage of Students Achieving Goal of Reduction in Daily Absences, 1978-79

Six-Weeks Period	Number of Students Sampled	Goal[a] (In Days)	Percent of Students Achieving Goal
August 28- October 6, 1978	936	3	68
October 9- November 21, 1978	1003	4	65
November 22, 1978- January 19, 1979	827	4	67
January 22- March 2, 1979	905	4	64
March 5- April 13, 1979	1050	4	64

[a] Goal was computed by subtracting the mean number of days absent in 1978-79 from the mean number of days absent in 1977-78 and taking 25% of the total.

Catholic Diocese of Dallas, Mt. St. Michael, St. Joseph Center

Sides and Rainone (T179-350-31-05) reported the evaluation of the non-public Title-I schools operated by the Catholic Diocese of Dallas. The Diocese was responsible during 1978-79 for providing supplementary instruction for Title-I students at campuses in three major components: (a) 10 regular schools and Notre Dame Special/Vocational campuses, (b) Mt. St. Michael, and (c) St. Joseph Center. Title-I students in grades one through six at the regular campuses were projected to gain 3 to 7 percentile points in reading comprehension and mathematics on the ITBS. Kindergarten students were to be assessed by performance on the MRT. Participants in the upgraded, multi-aged program at Notre Dame were expected to demonstrate progress commensurate with their ability in learning basic, everyday skills. At Mt. St. Michael, students were to gain a month of achivement (WRAT grade-equivalent score) for each month of instruction in reading comprehension and mathematics. At St. Joseph Center, individual academic assistance was to be provided to enable the students to interact more effectively in the educational mainstream.

Regular Diocese schools provided Title-I services for a student population of 660, with 27% Black, 58% Hispanic, 13% White, and 1% Asian students. There were 214 students served at the three institutions: 54 students at Notre Dame Special, 26 at Notre Dame Vocational, 23 at St. Joseph Center, and 111 at Mt. St. Michael.

In schools having a Title-I teacher, students were served in a separate Title-I classroom. Some Title-I aides also had classrooms, but generally aides worked with Title-I students in a teacher's room.

Process evaluations found the Diocese programs implemented at all sites as proposed.

Table 43 shows the distribution of MRT Pre-Reading Composite percentile scores for Diocese Title-I kindergarten students. The table shows that 18 (51%) of the 35 students tested scored at or below the 25th percentile on the MRT. More than three-fourths (77%) of the students scored below the 50th percentile and no student exceeded the 70th.

ITBS grade-equivalent scores for grades one through six are presented in Table 44. Noteworthy gains of 1.0 grade equivalent years or more were made in reading by fourth-grade students and in both subject areas by sixth-grade students. A sizeable gain (.9 grade-equivalent years) was made in mathematics by third-grade students. Missing data must temper conclusions based on these analyses. However, based upon experience and observation, a subjective assessment of the effects of the Diocese Title-I programs was made by the evaluators. The conclusion was that academic gains were being made. Teachers and aides agreed with this conclusion.

At the three institutions, there was ample evidence that academic progress was being made. Test data were not available due to the unique nature of these sites. However, the staff's assessments at these institutions corroborated the evaluators' observations that individual students were progressing according to their individual abilities. Staff members at the three institutions were particularly impressive in their handling of exceptional situations to produce positive results.

Table 43

MRT Pre-Reading Skills Composite
Percentile Distribution for Title I
Kindergarten Students in the Diocese of
Dallas, April, 1979

Percentile	Frequency	Cumulative Frequency	Percent	Cumulative Percent
1-5	5	5	14.3	14.3
6-10	2	7	5.7	20.0
11-15	3	10	8.6	28.6
16-20	5	15	14.3	42.9
21-25	3	18	8.6	51.4
26-30	4	22	11.4	62.9
31-35				
36-40	3	25	8.6	71.4
41-45	2	27	5.7	77.1
46-50				
51-55	2	29	5.7	82.9
56-60	4	33	11.4	94.3
61-65				
66-70	2	35	5.7	100.0
71-75				
76-80				
81-85				
86-90				
91-95				
96-99				
Total	35	35	100.00	100.0

Table 44

ITBS Reading and Mathematics
Mean Grade Equivalents for
1978-79 Title-I Students in
the Diocese of Dallas

Grade	Reading				Mathematics			
	N	Pretest	Posttest	Gain	N	Pretest	Posttest	Gain
1	28		1.6		28		1.4	
2	33	1.9	2.4	0.5	37	1.6	2.2	0.6
3	28	2.5	3.1	0.6	30	2.4	3.3	0.9
4	32	3.2	[illegible].3	1.1	38	3.3	3.9	0.6
5	23	4.0	4.5	0.5	30	4.0	4.3	0.3
6	21	4.3	5.3	1.0	28	4.4	5.4	1.0

Note. Pretest administered in April 1978 and posttest administered in April 1979. Pretest and gain statistics are not reported for grade 1 since the pretest, the MRT, did not yield grade equivalent scores.

Title-I Migrant Tutoring Program

Rincón and Zepeda (T179-346-31-01) reported on the evaluation of the Title-I Migrant Tutoring Program (MTP). The MTP was to address the needs of migrant students by means of tutoring in oral language development, language arts, and reading. Bilingual paraprofessional tutors provided supplementary reading instruction in daily 20 minute sessions using Spanish or English according to each student's needs. Materials for the program included supplementary Title-I materials, Bilingual Program materials, and DISD baseline curriculum materials.

Overall, the implementation of the MTP was adequate. At 9 of the 21 schools served by the program, tutoring took place in quiet, private areas such as resource rooms or empty classrooms. Other sites were less acceptable: corners of active classrooms, libraries, or lunchrooms. Tutoring began over a month late due to delayed funding, but these initial difficulties were later overcome.

Table 45 shows an analysis of student achievement data. Although the MTP had hoped to demonstrate student achievement of its unique population by substantial gains on the ITBS Reading Comprehension subtest, this result was not consistent. On the average, migrant students in grades two through five demonstrated small declines in percentile rank from pretest to posttest. Migrant students in grades six, seven, and eight made positive gains in percentile rankings. Likewise, grade-equivalent gains generally increased from grade two through eight. Due to the itinerant nature of the population the findings are based upon only a few matched pretest-posttest scores. Yet, gains by students in the upper grades are an indication that the MTP is a viable means of improving reading and languages for these students.

Another part of the MTP was a parental involvement effort. The four community recruitment aides employed by the program visited a total of 1,615 homes during the school year to inform parents about the MTP and available social services. Further, 100 parents attended MTP staff workshops or Title-I PAC meetings.

Title-I Summer Enrichment Program

Ferguson (T179-356-31-20) reported on the evaluation of the Title-I Summer Enrichment Program. The program was an attempt to promote academic growth in Title-I students and to alleviate a problem common to compensatory education students, academic regression during the summer months without school. The program provided instruction in both reading and mathematics. The objectives for the summer program called for each student to master two additional DISD baseline objectives in both subject areas. Mastery of the objectives was to be assessed based upon results of the Diagnostic Mathematic Test (DMT) in mathematics or the TERS or the Survey Test of Applied Reading (STARS) in reading.

A total of 797 students in grades kindergarten through six were served by the summer program. The program was implemented at nine schools. Students from other nearby attendance areas were eligible to attend, but very few students attended from the 43 intended feeder schools. The program was managed by an administrative intern and a clerk at each school, assisted by one home-school liaison per school and one

Table 45

Mean Pretest and Posttest Percentile and
Grade Equivalent Scores by Grade for
MTP Students

Grade	N	Pretest GE Mean	Pretest S.D.	Pretest %ile	Posttest GE Mean	Posttest S.D.	Posttest %ile	Gain GE	Gain %ile
2	52	1.3	.65	22	1.9	.65	20	.6	-2
3	42	2.1	.84	29	2.5	.90	24	.4	-5
4	39	2.5	.70	24	3.2	.82	23	.7	-1
5	27	3.0	1.09	19	3.8	1.66	17	.8	-2
6	32	3.1	1.12	6	3.9	1.20	8	.8	+2
7	7	1.7	1.02	1	4.3	1.03	7	2.6	+6
8	5	3.9	2.96	4	5.4	1.17	11	1.5	+7

Note: ITBS pre- and posttest were administered in April 1978 and April 1979, respectively. Data are for the Reading Comprehension Test.

parent ombudsman per three schools. The 99 teachers at the nine schools were assisted in the classroom by 12 CAI paraprofessionals. Finally, one resource teacher per three schools assumed mainly instructional duties, but also placed students and disseminated materials.

All students in the summer program received daily mathematics and reading instruction for equal periods of from 1 to 1 1/4 hours. Students also attended creative arts classes usually on a daily basis. All schools had similar schedules with only minor differences. The average group size for instruction was nine. The 12 classes that were observed had group sizes of seven. According to program plans, all students were to receive CAI in reading and mathematics. However, CAI was implemented only at Tyler school where students in grades one through three received daily CAI in mathematics. Classes were instructed by two CAI aides and consisted of groups of six or seven students. CAI classes lasted from 10 to 15 minutes. The remaining 10 CAI paraprofessionals were located at six schools and functioned as reading and mathematics teacher aides.

Results from process evaluation visits found the quality of instruction adequate. Also, students appeared interested and active, more so than during the regular year. Although several minor problems existed, the summer school program appeared to be effective in instructing students.

Of the 797 students in the summer enrichment program, 558 reading and 589 mathematics students had achievement data available for analysis. Tables 46 and 47 present the percentage of students at each grade level who achieved the objectives. As can be seen from the table, the summer enrichment program's objectives were achieved to a high degree. The average number of objectives mastered throughout the program was 2.7 in reading and 3.2 in mathematics. Because of the results, the concept of a Title-I summer enrichment program appears to be a viable tool to increase achievement of Title-I students.

Table 46

Percentage of Students Who Achieved the Objective in Reading

Grade	No. of Students Tested	% Meeting Objective
K	51	63
1	140	74
2	122	89
3	128	81
4	42	76
5	44	86
6	31	84
Total	558	80

Table 47

Percentage of Students Who Achieved the Objective in Mathematics

Grade	No. of Students Tested	% Meeting Objective
K	56	84
1	124	91
2	127	82
3	129	95
4	45	84
5	66	83
6	42	86
Total	589	87

References

T179-345-34-09 Andrews, J. V. Evaluation of the East Oak Cliff Title-I Bilingual Education Program, 1978-79.

T179-345-33-03 Andrews, J. V. Evaluation of the East Oak Cliff Title-I Multicultural Social Studies Program, 1978-79.

T179-345-35-16 Andrews, J. V. Evaluation of the East Oak Cliff Title-I Personnel Development Center Program, 1978-79.

T179-345-32-02 Andrews, J. V. Evaluation of the Title-I East Oak Cliff Supplemental Mathematics Program, 1978-79.

T179-345-31-01 Andrews, J. V. Evaluation of the Title-I East Oak Cliff Supplemental Reading/Language Arts Program, 1978-79.

T179-340-31-01 Bouldin, J. J. and Andrews, J. V. Evaluation of the 1978-79 Title-I Targeted Achievement in Reading Program (TARP).

T179-342-31-30 Burns, J. I., Wilson, G. L., and Andrews, J. V. Evaluation of the Title-I 1978-79 Kindergarten Supplemental Readiness Program.

T179-356-31-20 Ferguson, R. G. Evaluation of the 1978-79 Title-I Summer Enrichment Program.

T179-351-31-05 Ferguson, R. G. and Schroeder, A. Evaluation of Title-I Tutoring Programs at Seven Non-Public Institutions, 1978-79.

T179-343-31-09 Rainone, D. L., Sides, J. R., and Zepeda, R. A. Evaluation of the Title-I Bilingual Education Component, 1978-79.

T179-346-31-01 Rincón, R. and Zepeda, R. A. Evaluation of Title-I Migrant Tutoring Program, 1978-79.

T179-349-31-11 Rutherford, W. B. and Andrews, J. V. Evaluation of the 1978-79 Title-I Community Involvement Program.

T179-341-31-02 Schroeder, A. and Ferguson, R. G. Evaluation of the Title-I Targeted Achievement in Mathematics Program, 1978-79.

T179-344-31-30 Sides, J. R. and Rainone, D. L. Evaluation of the Dunbar Compensatory Education Components, 1978-79.

T179-350-31-05 Sides, J. R. and Rainone, D. L. Evaluation of the Non-Public Title-I Schools, 1978-79: Catholic Diocese of Dallas, Mt. St. Michael, St. Joseph Center.

T179-352-31-10 Vines, D. and Zepeda, R. A. Title-I Attendance Study, 1978-79.

T179-347-31-05 Wilder, M. G. and Zepeda, R. A. Evaluation of the Title-I 1978-79 Campus Level Planning Program.

T179-348-31-16 Zepeda, R. A. Evaluation of the Title-I Staff Development Program, 1978-79.

An Interpretative Analysis of the Results of the Implementation of 1978-79 Special Programs

Robert P. Grobe

Several major programmatic thrusts have been implemented in the Dallas Independent School District (DISD) during the past few years which attempt (a) to remediate needs identified in the District's needs assessments; (b) to insure attainment of the District's adopted student development goals; (c) to address the state accreditation principles, standards, and procedures; and (d) to adhere to the April 1976 court order for the desegregation of the DISD schools. This interpretative analysis presents information related to the degree that several such efforts succeeded. More specifically, the projects discussed were locally funded efforts and externally funded projects other than ESEA Title I, ESEA Titles IV-C and VII and the Emergency School Aid Act (ESAA). (Because of their magnitude, Title I, Title IV-C, Title VII, and ESAA funded projects are the subjects of separate analyses.) As an introduction for the reader, Table 1 presents a list of the projects to be discussed and the funding source for each.

In general, the variety of programmatic thrusts demonstrates the sincere intent of the District to remediate identified needs, to adhere to the April 1976 court order for desegregation, to attain adopted goals, and to address state requirements. Some of the more successful projects include the Speedreading and Scholarship Skills project, the Talented and Gifted project, and the Lau Program. While the three projects just mentioned have been singled out as particularly successful, many of the

Table 1

Projects Discussed in This Interpretative Analysis

Projects	Major Funding Source
Academic Projects Related to Basic Skills	
Teaching Reading in Content Areas	DISD
Life Skills Mathematics Program for the	
1. East Oak Cliff Subdistrict	DISD
2. Northwest, Northeast, Southeast, Southwest Subdistricts	DISD
Fingermath	DISD
Television Reading Program	DISD & Capital Cities (materials were supplied by publisher)
DISD's Lau Program	DISD, ESAA, ESEA (Title I & VII)
School-based Projects	
Hulcy Communication Skills	DISD (funded within school's own budget)
Carter Fundamental High School	DISD (funded within school's own budget)
Dunbar SUCCESS Program	DISD
Amelia Earhart Montessori Program	DISD
Academic and Experiential Educational Opportunities	
Speedreading/Scholarship Skills Project	DISD
Talented and Gifted Program	DISD & Title IVC
Pushing Excellence in Pupils Program	DISD
Nutrition Education: Curriculum, Training, Assessment and Resources Project	PL95-166 (cooperative agreement between ESC Region XIII & DISD)

Table 1. (Cont'd.)

Projects	Major Funding Source
Background Food Experiences in Kindergarten Classes	Kroger Grocery Stores & Dairy Industry
Summer Skills Youth Employment Program	Dallas County Community Action Center
Youth Employment Training Demonstration Model	Comprehensive Employment Training Act
Management Related Projects	
Elementary Textbook Project	DISD
Contracted Services	DISD
Canine Drug Detection Pilot Program	DISD & Dallas County Schools

other programs were also successful, in varying degrees, in meeting their proposed objectives. Some programs, on the other hand, were beset with problems of implementation, or operation, and thus failed to attain fully proposed outcomes. For those projects not judged to be as successful as some other projects, Lym and Grobe (SP78-313-61-30) offered a list of considerations for improving the probability of success for an innovation. These considerations seem to be of value to the 1978-79 projects judged to be less successful than had been expected. To insure that all programs reach an acceptable level of success, Lym and Grobe offered the following:

1. Considerable resources are, and should be, expended in the planning of programs. Additional effort is needed, however, in the conceptualization of programs, especially those which are interdisciplinary. Cooperation among various administrative

departments and among groups of instructional personnel of different disciplines is essential to the effective design of interdisciplinary programs.

2. Every program should be carefully managed by an administrator who is able to devote the time necessary to the successful operation of the program. Those programs not having a manager or not receiving enough management support seem to demonstrate lack of success. Through careful planning and management, the often-experienced problems stemming from late funding, incomplete staffing, and related areas can be reduced or eliminated. Clearly defined lines of communication and definite assignment of duties and responsibilities to personnel ought to characterize every program.

3. Every proposed program should be carefully assessed based on its likelihood of acceptance by teachers and other instructional personnel. Criteria to be considered should include the following: (a) amount of testing necessary for both instruction and evaluation, (b) potential availability of materials, (c) delivery of pre-service and in-service training, (d) lines of communication for teachers and school administrators, and (e) clerical requirements imposed upon teachers.

4. The outcome objectives of every program should be "realistic." That is, they should not be too easy nor too difficult to attain. Special care should be taken in establishing objectives for remedial programs, especially those at higher grade levels.

5. The "intensity" or "uniqueness" of instructional treatments in the various programs should be of a sufficient magnitude to register changes in the measurement scales used to evaluate the program. Little change can be expected in programs which are sporadically implemented or in which students receive infrequent exposure to the program. Programs should clearly distinguish themselves from already existing instructional approaches if they are to impact student learning.

6. The instruments and procedures used to measure outcome objectives should be "sensitive" to the instructional activities. That is, if the program produces a change of detectable size in the targeted skill or behavior, then an accompanying change should be expected to show up on the measurement instrument.

7. Teacher training is vital to the successful implementation of any program. Teachers must be familiar with and embrace new programs before they can be expected fully to implement them. Thus, teachers should receive comprehensive training in a program before it is placed in classrooms, and follow-up training and support should continue throughout the time of implementation. Adequate orientation and training also should be provided to school administrators and resource personnel.

Another consideration, beyond those seven presented by Lym and Grobe, relates to an adequate and standardized approach to administration of measurement instrumentation. For example, if the wrong levels of tests are used or administered incorrectly, then the data becomes unusable or, at best, the findings based on such data become equivocal.

The following discussion details the evaluation of 20 projects. It is divided into four sections: (a) academic projects related to basic skills, (b) school-based projects, (c) academic and experiential educational opportunities, and (d) management-related projects.

Academic Projects Related to Basic Skills

Of 19 student development goals adopted by the Board of Education and reviewed in a needs assessment conducted in 1976-77 by Grobe (IE77-071-3-9), strengthening student achievement in basic skills was considered to be the most important and to have highest priority. In addition, a Supreme Court ruling (Lau vs. Nichols) that school districts must provide language services to limited-English-speaking-ability (LESA) students has also focused emphasis on the need of the LESA student for basic skills instruction.

In recent years, the District has designed numerous projects intended to focus on improving development of communication skills (reading, writing, and oral language) and mathematics skills. This is not to say that other subject areas have been neglected, but rather that communication and mathematics have been given greater priority. In the following sections, six projects having the goal of strengthening achievement in basic skills are discussed.

Teaching Reading in the Content Areas

Teaching Reading in Content Areas (TRICA) was designed to provide secondary teachers in four content areas (language arts, mathematics, science, and social studies) with instructional options for teaching reading. With the completion of the project's second year of operation, training in the TRICA strategies has been provided to principals, deans of instruction, department chairpersons, resource teachers, and core groups of content area teachers from most District secondary schools. Personnel from approximately one-half of the secondary schools received initial training during the 1977-78 school year, while personnel from the remaining secondary schools received initial training during the 1978-79 school year. In addition, follow-up training sessions were held during the 1978-79 school year for personnel from the 1977-78 group.

Evaluation results. The purpose of the evaluation was to gather and report information regarding the operation and effects of the 1978-79 TRICA Training Project. In particular, the evaluation was concerned with determining the extent of both the 1977-78 and 1978-79 TRICA participant's knowledge and use of the TRICA instructional strategies. Results reported by Torres-Henry and Grobe (SP79-403-31-01) are summarized below.

1. Slightly less than 50 percent of the 1978-79 participants attended all four of their training sessions while a similar percentage (43%) of the 1977-78 participants attended both of their training sessions.

2. A cognitive test assessing the main concepts used in TRICA was administered to participants in the training sessions. The mean number of items answered correctly by both the 1977-78 and the 1978-79 groups corresponded to 66 percent correct.

3. By using structured interviews, evaluators determined that 90 percent of the 1977-78 participants were using at least some of the TRICA strategies during 1978-79, while 78 percent of the 1978-79 participants were using the TRICA strategies during 1978-79. Table 2 summarizes the number of participating teachers who were at different Levels of Use (LoU) with respect to their use of TRICA. Basically, higher Levels of Use indicate a greater facility in using an innovation such as TRICA (Hall, Loucks, Rutherford, & Newlove, 1975).

4. Twenty-two high school administrators indicated that use of the TRICA instructional strategies had enhanced the classroom learning environment, while one indicated that it had not. Eleven middle school administrators indicated that use of TRICA had enhanced the classroom learning environment, while three indicated that it had not.

Table 2

Frequency Distributions for Overall
Levels of Use

		Group I (1977-78 Participants)		Group 2 (1978-79 Participants)
Levels of Use[a]		Spring, 1978	Spring, 1979	Spring, 1979
O	Non-use	2	2	2
I	Orientation	0	1	2
II	Preparation	0	0	1
III	Mechanical Use	15	14	12
IVA	Routine	9	10	5
IVB	Refinement	3	1	0
V	Integration	0	1	0
	Renewal	0	0	1

[a] Higher levels of use indicate a greater facility in using TRICA.

Interpretation. Cognitive test results for the 1977-78 TRICA participants (Group 1) indicate that they have retained considerable knowledge concerning the main concepts and strategies of TRICA. This finding suggests that project managers have been relatively successful in meeting their second-year goal of maintaining and expanding teachers' knowledge of the strategies. The Levels of Use (LoU) data indicate that there is a sizeable number of TRICA Training Project teachers who are implementing the TRICA strategies. In spite of the positive findings discussed thus far, significant movement to higher Levels of Use which one might have expected, has not occurred. To verify this statement, compare the numbers in Table 2 at each LoU for Group 1 in the Spring 1978 and the Spring 1979. As noted the numbers are not very different after one year. Several factors related to the training groups' general involvement with the TRICA strategies may have abated such movement. First, with the 1977-78 training groups' less frequent exposure to the training sessions over the two-year period, their general involvement with the TRICA strategies has decreased. Second, the 1978-79 training sessions were attended less frequently by the trainees than were the 1977-78 training sessions. The 1978-79 training sessions being held on Saturday rather than during release time may have deterred trainees from attending. And third, the number of teachers receiving training more than doubled in the project's second year, while the number of TRICA facilitators remained constant. Thus, the facilitators were not able to visit the schools and assist teachers as frequently as they had the previous year.

Life Skills Mathematics Program for the Northwest, Northeast, Southeast, And Southwest Subdistricts

The Life Skills Mathematics (LSM) Program was designed to help students meet a minimum level of mathematical competency. The program focused primarily on the following areas of concern: (a) approximation,

(b) spending behavior, (c) currency, (d) cost comparison, (e) tables and graphs, (f) time calculations, (g) job applications, (h) salaries and wages, (i) insurance, (j) interest, (k) banking, (l) budget, (m) income tax calculations, (n) sales taxes, (o) discount rates, (p) maps, (q) travel, (r) geometry, and (s) metric measures. Project activities included the equipping and operating of Life Skills Mathematics laboratories in a preselected set of secondary schools and the offering of LSM courses in 16 senior high schools. Resource teachers directed laboratory activities and oriented mathematics teachers toward the use of laboratory facilities. In addition, instructional facilitators provided staff development training sessions and supervised the implementation of laboratories within participating schools.

Evaluation Results. The evaluation conducted by Almaguer, Torres-Henry, & Zimmerer (SP79-404-31-02) focused on monitoring implementation, identifying instructional objectives for additional emphasis, and providing a service by scoring tests for the teachers. Specific results are summarized below.

1. The LSM program was implemented basically as it had been planned. Life Skills Mathematics courses were offered in 16 high schools as specified. Resource labs were implemented in 17 of the 20 high schools that were scheduled to begin lab operations. Both the in-service training and the technical assistance provided by project management was well-received. However, resource teachers and classroom teachers indicated two areas of concern: (a) late delivery of curriculum materials and (b) the time and effort required to score the Life Skills Mathematics Cluster Test (LSMCT). These concerns were addressed during the year.

2. The percentages of students mastering each skill by grade are given in Table 3. Project management has reported that skills that are mastered by less than 70 percent of the student population warrant additional instructional emphasis. Using this criterion, a review of the data given in Table 3 suggests that the following curriculum areas may require additional emphasis: cost comparison, tables and graphs, insurance, interest, banking,

Table 3

Life Skills Mathematics Cluster Test Profile

Grade 9, 10, 11

Grade		+ Percentage of Students Mastering Skill +																	
	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Ninth	6265	73	87	80	51	21	63	80	57	16	24	42	35	38	34	39	39	33	40	20
Tenth	5238	79	91	85	58	26	71	86	66	24	32	53	52	49	50	45	50	43	46	26
Eleventh	2669	85	94	91	70	33	81	92	78	40	51	68	68	66	66	60	62	58	57	39

Note. The numbers used to represent the 19 skills are defined as follows:

1. Approximation
2. Spending Behavior
3. Currency
4. Cost Comparison
5. Tables and Graphs
6. Time Calculations
7. Job Applications
8. Salary and Wages
9. Insurance
10. Interest
11. Banking
12. Budget
13. Income Tax Calculations
14. Sales Tax
15. Discount Rate
16. Maps
17. Travel Time
18. Metric Measures
19. Geometry

budgeting, income tax calculations, sales taxes, discount rates, map reading, travel time, metric measures, and geometry applications.

3. Project personnel intended to use the Life Skills Mathematics Cluster Test to identify specific weaknesses that a student had or would have in passing the Basic Objectives Assessment Test (BOAT). Therefore, statistical tests (residual plots, simple regression analyses, and Pearson product-moment correlations) were used to measure the extent to which LSMCT and BOAT scores were related. The results of these analyses were all statistically significant and suggested that high LSMCT scores tend to be associated with high BOAT scores.

Interpretation. The results related to project implementation indicate (a) that the training activities and technical assistance were provided and (b) that, in general, the project was implemented reasonably well. The curriculum areas identified as needing additional emphasis should be treated as possible weaknesses warranting further consideration. Certainly, any adjustments in the District's curriculum should be considered only if the results of this assessment are in agreement with other pertinent school data. In sum, the steps that have been implemented are an excellent framework for a systematic model relating diagnosis, prescription (educational plans), instruction, assessment, and mastery.

Life Skills Mathematics Program for East Oak Cliff

As was the case in the other subdistricts, in East Oak Cliff (EOC) the main intent of the Life Skills Mathematics program was to help students meet a minimum level of mathematical competency. Program activities were designed to help students cope with the following areas of concern: (a) approximation, (b) spending behavior, (c) currency, (d) cost comparison, (e) tables and graphs, (f) time calculations, (g) job applications, (h) salaries and wages, (i) insurance, (j) interest, (k) banking, (l) budget, (m) income tax calculations, (n) sales taxes, (o) discount rates, (p) maps, (q) travel, (r) geometry, and (s) metric measures.

Program activities included (a) the development of departmental plans for addressing life skills, (b) the administration of diagnostic tests, (c) the development and implementation of individual plans for addressing life skills within regular classroom settings, (d) the identification and requisitioning of life skills materials, (e) in-service staff development sessions, and (f) technical assistance to administrators and instructional personnel. In addition, orientations and in-service training sessions on life skills materials were made available to interested parties. Furthermore, Life Skills Mathematics courses were offered in three high schools: A. Maceo Smith, Franklin D. Roosevelt, and South Oak Cliff.

Evaluation results. The objectives of the evaluation (Almaguer, SP79-405-31-02) were: (1) to document major variations from the proposed program design, (2) to describe the characteristics of ninth, tenth, and eleventh grade students relative to their proficiency in 19 math life skills, (3) to provide a global measure of pretest to posttest gains relative to the 19 math life skills, (4) to examine the relationship between the Life Skills Mathematics Cluster Test (LSMCT) and the District's measure of functional literacy, the Basic Objectives Assessment Test (BOAT), and (5) to obtain a global measure of students' attitudes regarding the importance of the 19 math skills in day-to-day living. Information related to each objective is summarized below:

1. The LSM program was implemented as specified. The only weakness detected and corrected related to expecting teachers to administer and score the Life Skills Mathematics Cluster Test (LSMCT), the weakness being that this required a large amount of time.

2. The percentage of students mastering a given skill by grade is given in Table 4. Project management has reported that skills that are mastered by less than 70% of the student population warrant additional instructional emphasis. Using this criterion, a review of the data given in Table 4 suggests that the following curriculum areas may require additional emphasis: approximation, cost comparison, tables and graphs, time calculations, salary and wages, insurance, interest, banking, budgeting, income tax calculation, sales taxes, discount rates, map reading, travel time, metric measures, and geometry applications.

3. Pretest-posttest results indicate that significant gains were made on the LSMCT over the 1978-79 school year.

4. Project personnel intended to use the LSMCT to identify specific weaknesses that a student had or would have in passing the Basic Objectives Assessment Test (BOAT). Therefore, statistical tests (residual plots, simple regression analyses, and Pearson product-moment correlations) were used to measure the extent to which LSMCT and BOAT scores were related. The results of these analyses were all statistically significant and suggested that high LSMCT scores tend to be associated with high BOAT scores.

5. A large majority of eleventh and twelfth grade students in EOC perceive the 19 math life skills as being important in day-to-day living.

Interpretation. The major results related to project implementation indicate (a) that, in general, the project was implemented reasonably well and (b) that students perceived the objectives as important. In terms of curriculum, areas identified as needing additional emphasis should be treated as possible weaknesses warranting further consideration. Certainly, any adjustments in the District's curriculum should be initiated only if the results of this assessment are in agreement with other pertinent school data. In sum, the steps that have been implemented are an excellent framework for a systematic model

Table 4

Life Skills Mathematics Cluster Posttest
School Profile

Grade	N	+ ------------- Percentage of Students Mastering Skill 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	---------------- + 19
Ninth	1,074	59	80	73	35	11	49	69	43	6	13	25	22	23	22	20	22	19	17	6
Tenth	895	64	82	74	39	11	52	76	50	9	15	33	30	27	26	23	25	21	18	7
Eleventh	441	65	85	75	40	12	55	76	50	11	17	33	30	29	26	25	26	22	22	7

Note. The numbers used to represent the 19 skills are defined as follows:

1. Approximation
2. Spending Behavior
3. Currency
4. Cost Comparison
5. Tables and Graphs
6. Time Calculations
7. Job Applications
8. Salary and Wages
9. Insurance
10. Interest
11. Banking
12. Budget
13. Income Tax Calculations
14. Sales Tax
15. Discount Rate
16. Maps
17. Travel Time
18. Metric Measures
19. Geometry

relating to diagnosis, prescription (educational plans), instruction, assessment, and mastery.

Fingermath Project

The main intent of the Fingermath Project was to supplement existing mathematics instruction in assisting students to improve their computational skills in addition, subtraction, multiplication, and division. The program was to include the field testing of Fingermath with students ranging from first to fifth grade. Students were to receive 10 minutes of instruction per day for a period of 60 days from instructors who had received 35 to 40 hours of Fingermath training.

Evaluation results. The objectives of the evaluation (Almaguer, SP79-407-31-02) were: (1) to document major variations from the proposed program design, (2) to provide measures of pretest to posttest student gains in computational skills, and (3) to obtain a global measure of students' attitudinal changes towards both school and mathematics.

1. Two major problems were encountered in the delivery of adequate Fingermath instruction to all participating students. First, only, basic addition and subtraction instructional materials were made available by the Texas Education Agency. Efforts to secure the necessary materials from private industry were successful; however, the materials arrived approximately two weeks prior to the project's termination date. Second, participating teachers received only 16 of the proposed 40 hours of in-service Fingermath training. This problem was due both to the lack of instructional materials and time constraints.

2. Questions regarding project effects (e.g., achievement and attitude) were unanswerable. Due to the magnitude of the problems encountered in program implementation, the evaluator and project personnel agreed that any attempts to measure treatment effects would be in vain.

Interpretation. The project was not implemented as specified. Consequently, any conclusions regarding the value of the program are difficult to make.

Television Reading Program

The Television Reading Program (TVRP) does not endorse or encourage television viewing. It attempts to use, as motivation for reading, the fact that students are already watching certain prime-time programs with intensity and regularity and identify enough with these programs and their characters so that they would enjoy the chance to read the scripts before they are aired. The TVRP can be characterized as basically a supplementary program. Teachers who participated received one television script per month (November through May) in advance of its being aired on network television. Specific scripts and programs used include "Spiderman," "A Woman Called Moses," "Mork and Mindy," "Waltons," "Happy Days," "The White Shadow," "Eight Is Enough," and "Chips." An important point to note is that the actual viewing of the network programs was strictly optional for everyone and was not made as an assignment.

Evaluation results. Evaluation findings concerning teacher attitudes and student achievement were reported by Grobe (SP79-410-31-01). Results are given below.

1. Most teachers indicated that difficulty levels were about right, content was appropriate, and most or all of the students liked the scripts. Problems most frequently mentioned in response to an open-ended question included late delivery, errors in exercises (e.g., the crossword puzzle), and extensive narration in the script. Fourth grade teachers indicated that the reading level was too high. Ninth grade teachers pointed to difficulties in incorporating the exercises into lessons which are already very full.

2. In determining the effect of the Television Reading Project upon student reading achievement, treatment and comparison groups were studied at three grade levels: fourth, sixth, and ninth. In sum, the achievement results are equivocal. Fourth- and sixth-grade achievement data do seem to suggest a small effect at the elementary level, while ninth grade data were difficult to interpret due to the large number of chance scores. In fairness to the Television Reading Program (TVRP), it should be noted that one could expect only small effects, since it is basically a supplementary program.

Interpretation. In sum, the results indicate (a) that the majority of teachers liked the Television Reading Program and (b) that students' reading achievement was not hindered by the program. Thus, the combination of both results suggest that teachers who like the program might continue using it as a supplementary program. This, of course, would be contingent upon the existence of funds to purchase and support such a program.

Costs for materials will not be much of a consideration for the coming year (i.e., 1979-80), since the materials are free for the second year of our participation in a nationwide pilot-test (i.e., 1979-80 school year); however, personnel costs involve at least a part-time facilitator for a delivery system (e.g., 1/4 time = $4,000, 1/2 time = $8,000).

The DISD's Lau Program

The implementation of the Lau program is representative of the District's committment to meet with the letter and spirit of the Supreme Court case decision, Lau v. Nichols (1974) 414 U.S. 563, 94 S. Ct. 786. The objectives of the Lau program were (a) to identify limited-English-proficient students, (b) to categorize these students with respect to their level of language proficiency, and (c) to provide them with additional language services via bilingual and English-as-a-Second Language (ESL) programs. The ESL program stressed primarily the comprehension and the utilization of the English language. More specifically, the ESL program concentrated on the development of students' listening, speaking, and pronunciation skills. The District's bilingual program, on the other hand, included (a) language development in the student's dominant language, (b) subject matter and concept development in the student's dominant language, (c) English language development, (d) subject matter and concept development in English according to the child's level of English proficiency, and (e) the development of students' self-confidence, and positive attitudes toward their cultural heritage.

Evaluation results. Evaluation findings from a report by Almaguer (SP79-431-31-09) focused on the project's objectives. These findings are summarized below.

1. Limited-English-proficient (LEP) students were identified on an individual basis. More specifically, survey forms written in English, Spanish, and Vietnamese were sent to the entire student parent population. This survey was designed to locate and identify students who would require an assessment with language proficiency measures. Approximately 99% (N=131,365) of the surveys were retrieved. Language proficiency measures were then administered to 17,718 students. Of these students, 8,749 were identified as potential LEP students.

2. All students identified as limited-English-proficient were categorized according to the extent to which they needed additional language services. This categorizing was accomplished by using language proficiency test results.

3. Considerable progress was made in meeting the needs of limited-English-proficient students; nonetheless, it should be brought to the reader's attention that the District experienced

several difficulties in providing language services to all LEP students. First, certified instructors, needed to serve children with dominant languages other than Spanish, were virtually non-existent. Second, project personnel reported that a large number of students, especially at the secondary grade levels, declined program services. Third, the transient nature and dropout rate of identified LEP students limited the delivery of adequate instructional services to these students. Finally, the vast distances and dispersion of some LEP students throughout the District made it extremely difficult to provide them with additional language services.

4. Other activities outlined in the District's plan for meeting the needs of LESA students were, with only one variation, implemented as specified. The variation occurred with respect to the operation of a highly intensive language program. More specifically, the plan for non-English speaking students was to continue English-as-a-Second-Language (ESL) instruction in social studies, science, and mathematics for the additional class periods. However, as a result of an insufficient number of certified instructors, only one period of ESL was provided which focused on listening, speaking, and writing skills.

Interpretation. The evaluation results suggest that the LAU program was implemented basically as planned. The program was quite successful in (a) identifying limited-English-proficient students (e.g., approximately 99 percent of survey forms were retrieved) and (b) categorizing students according to their need for language services. The one problem area was in relation to the lack of certified bilingual staff. The dispersion of students needing language services suggests that additional instructional and logistical strategies (e.g., instructional television, curriculum transfers) will be required to meet the needs of all limited-English-proficient students.

School Based Projects

In recent years, literature in the areas of change and innovation has suggested that the smaller the unit of change (e.g.,nation, state, LEA, school, individual), the more likely an innovative program will succeed. The DISD has recognized and responded to this maxim of change by emphasizing campus level planning for a number of years. It should be noted that Texas Education Agency accreditation efforts have also supplied an additional source of support for campus level planning by necessitating assessment and planning at the local level. As an outgrowth of this emphasis, a number of schools have initiated and planned locally based innovative projects. Four such programs were evaluated during the 1978-79 school year.

Hulcy Communication Skills Program

The purpose of the Hulcy Communication Skills Program (HCSP) was to provide to all students opportunities for improving the reading, writing, speaking, and problem-solving skills essential in today's society. The HCSP had two distinctive features. First, since communication skills serve as tools in all areas of learning, rather than as an end in themselves, they were incorporated into all areas of the Hulcy curriculum. The second feature was that the language arts class time had been extended to include an additional consecutive period of reading enrichment or remedial reading. This additional class period was made possible by dividing the school day into eight periods of forty-five minutes.

Evaluation results. The evaluation of the program (Grobe, SP79-409-31-01) was designed to determine if the program was more effective in teaching reading skills than more traditional approaches. The findings are delineated below.

1. From interviews with program staff, it was determined that the program was generally implemented as it was intended to be implemented. This should be expected since the program was

initiated at the school and had the commitment of the school's administration and the majority of the faculty. Additionally, the 1978-79 school year was the third year of operation, thus one would expect most of the implementation flaws to be worked out.

2. To determine if reading achievement improved more than would have been expected without the HCSP, ITBS reading grade-equivalent scores of three comparison groups were compared with three groups of HCSP students. The three HCSP groups were (a) those HCSP students who had been in the program for one year (i.e., 1978-79 seventh-graders); (b) those HCSP students who had been in the program for two years (i.e., eighth-graders); and (c) those ex-HCSP students who had participated in the program for two years and have been in another school for one year (i.e., 1978-79 ninth graders). Results for the eighth and ninth grades in this evaluation indicate that reading achievement for HCSP students improved more than for the comparison group; however, the HCSP seventh grade did not improve significantly more than the comparison group.. An unexpected finding was that the HCSP not only facilitated improvement of reading, but also facilitated improvement in work-study skills and mathematics concepts.

Interpretation. Results favoring the program were found for both groups that had been in the program two years (i.e., eighth and ninth grade), but not for the group which had been in the program one year (i.e., seventh grade). One possible interpretation is that it takes two years of exposure for the program to have an effect. A less positive interpretation is that the seventh grade program is not effective.

Generally, the evaluation results indicate promise for such a program. However, it should be noted that such a program will require a strong administrator who is willing to work through a systematic process for implementing change. Such a process should include (a) the establishment of a climate conducive to change, (b) systematic planning, (c) good management, and (d) useful evaluation.

Carter Fundamental High School

The David W. Carter Fundamental High School was designed to provide a highly structured learning environment in which students would be taught the basic subjects of English, social studies, mathematics, and science. In addition to stressing the basics, this learning environment emphasized the development of character traits (e.g., pride, honesty, responsibility, justice, loyalty, determination, and dependability) that will enable students to become self-actualizing individuals. The development of decision-making skills, self-discipline, good study and inquiry skills, citizenship, and patriotism were also stressed. Students and their parents were required to sign the David W. Carter Contract of Mutual Understanding prior to the students' being admitted to the school. This contract stated the responsibilities of the school personnel, the student, and the parent/guardian .

Evaluation results. The evaluation of the David W. Carter Fundamental High School (Torres-Henry and Almaguer, SP79-406-31-30) focused on the tenth grade and was designed to determine if the program was effective in improving the academic performance of students enrolled. The design provided for the collection of further information regarding the program's effectiveness by assessing the teachers', students', and parents' attitudes toward the school. Findings of interest are summarized below.

1. Attitudes of students, parents, and teachers toward the program were all very positive. Most students found that their classes were well-organized, that the lessons were challenging enough, that they were learning the basics, and that they were developing self-discipline in their classes. The majority of parents felt that their children were getting a basic education at the Carter Fundamental High School. A majority of the teachers also indicated that they had observed each of the following in their Fundamental students: an increase in good study habits; an increase in self-discipline; compliance with the dress code; and a good attitude toward homework.

2. Slightly over one-half of the parents indicate that they were involved in Carter High School functions. However, the parents' responses suggest that this level of participation might be increased by the Carter High School staff initiating more organized contact with parents about the volunteer program.

3. The tenth-grade fundamental students demonstrated significant pretest-to-posttest gains on all of the following subtests of the Iowa Tests of Educational Development (ITED): Reading Total, Language Arts Total, Mathematics, and Composite.

4. Analyses of the pretest-to-posttest gains made by both tenth-grade Fundamental and comparison students are summarized in Table 5. These analyses revealed that the Fundamental students made significantly more gains than were made by comparison students for all of the following ITED subtests: Reading Total, Language Arts Total, Mathematics, and Composite.

Interpretation. For advocates of the program, it is encouraging to note that the Fundamental students made significantly greater gains in achievement than the comparison students on most subtests of the ITED. Also of no small consequence is the apparent support given the program by the parents. In sum, the program does have some areas which can be improved (e.g., volunteer program); however, overall it was reasonably successful.

Dunbar SUCCESS Program

The SUCCESS in Beginning Reading and Writing program was pilot-tested at Paul L. Dunbar Early Childhood Center. This program, taught in grades K-3, is based on the belief that people should be taught to read and write about the kinds of materials that are available to them in their natural forms, such as books, magazines, newspapers, catalogues, maps, poems, telephone books, and so on. The purpose of this program was to successfully introduce a large number of students to effective reading

Table 5

Summary of Statistical Comparisons
for Fundamental Students vs. Regular Students

Subtest Score/ Group	N	Mean Rank	Significant Difference[a]
Reading Total			
Fundamental	100	193.08	Yes
Regular	238	159.59	
Language Arts Total			
Fundamental	98	193.60	Yes
Regular	233	154.39	
Mathematics			
Fundamental	98	196.23	Yes
Regular	244	161.57	
Composite			
Fundamental	93	182.74	Yes
Regular	220	146.12	

Note. This is a summary of Kruskal-Wallis One-Way Analyses of Variance by Ranks for *Iowa Tests of Educational Development* (ITED) pretest-to-posttest differences comparing 10th-grade fundamental students with 10th grade regular students.
High mean ranks indicate a favorable result; lower mean ranks are less favorable.

[a] Statistical significance was based on an -level of 0.05.

and writing through creative teaching methods. The SUCCESS program was developed by Anne H. Adams, Ed.D., Duke University, and was previously pilot-tested in the Durham (North Carolina) City Schools.

Evaluation results. The evaluation of the Dunbar SUCCESS Program (Knecht and Grobe, SP79-408-31-01) was designed to determine if the SUCCESS in Reading and Writing Program was more effective than traditional approaches in teaching reading skills at the first-grade level. Results summarized below were expected to indicate whether the program should be modified, and whether the program might be worth transporting to other elementary schools.

1. Parents and teachers were generally positive about the program. Ninety percent of the parents indicated that they were happy with their child's reading instruction. Four of five teachers indicated they would choose to use the SUCCESS curriculum again next year.

2. To examine performance on a criterion-referenced test, the Tests of Essential Reading Skills (TERS) were used. A comparison of the subtest results of the TERS revealed that the control group scored significantly higher than the treatment group on three of the twelve subtests. More specifically, the differences occurred on the subtests of Long Vowels, Sight Vocabulary, and Word Recognition. No other significant differences were noted.

3. A comparison of the mean raw scores of the Iowa Tests of Basic Skills (ITBS) reveals that the students in the control group made higher scores than students in the treatment group on four of the six ITBS subtests. The differences for three of these subtests, vocabulary, word analysis, and reading comprehension, were found to be statistically significant.

4. A subjective judgment of samples of students' works made during classroom observations indicated that the sentences and stories of Dunbar students were generally longer and more creative than those of comparison students. This is likely a reflection of the SUCCESS program's emphasis on "language experience."

Interpretation. The evaluation results concerning the SUCCESS in Beginning Reading and Writing program for the first grade are somewhat equivocal. The SUCCESS program was effective in developing writing skills which led to longer sentences and stories. Additionally, teachers were very enthusiastic about, and supportive of, the program. In terms of reading achievement, summary statistics suggest that students who participated in the SUCCESS program scored lower than the control group on some subtests (e.g., Long Vowels, and Sight Vocabulary on the TERS; Word Analysis and Reading Comprehension on the ITBS). The treatment and control groups were not significantly different on twelve other subtests. The equivocal results would suggest that the SUCCESS Program might be worthy of continuation with modifications to remedy the areas in which the treatment group scored lower than the control group. However, the program should be limited to a pilot-test phase until more data can be collected to verify or refute the value of the SUCCESS Program. Available data suggest that the SUCCESS Program should not be expanded at this time.

Amelia Earhart Montessori Program

The first and second grade Montessori program at Amelia Earhart began during the 1978-79 school year. The Montessori approach emphasizes self-discipline, acquisition of social behavior, and learning by self-exploration. Instruction is enhanced by numerous visual and tactile learning aids.

Evaluation results. The purpose of the evaluation by Anderson and Murray (SP79-429-41-30) was to determine inferences about the relative merits of Montessori instruction and traditional instruction. The evaluators focused on academic achievement gains, positive self-concepts, and exemplary social behaviors as points of sale typically offered by Montessori proponents. A summary of the findings is given below.

1. The predominant learning mode of students in both experimental and control classrooms appeared to be "individual study." However, the results suggest that a greater number of experimental students were involved in "individual study" than was the case for control students. Whereas an average of 54% of the first-grade control students was involved in individual study, an estimated 69% of the experimental students were observed working alone. Similar statistics for second-grade students were 72% for experimental students and 41% for control students. These results appear to substantiate claims that the Montessori method stresses an individualized approach to instruction.

2. No statistically significant differences on MRT gain scores were observed between first-grade Montessori and traditional students, perhaps because of measurement constraints of the posttest administration of the Metropolitan Readiness Tests (MRT). However, statistically significant differences were noted favoring the first-grade Montessori students on the Spring 1979 ITBS. The ITBS Composite mean grade equivalent for first-grade Montessori students was 2.1. First-grade traditional students had an ITBS Composite mean grade equivalent of 1.7.

3. The second-grade Montessori group mean grade equivalent gain for the Vocabulary subtest was significantly greater than the mean gain of the second-grade control group. Significant differences on no other subtests were noted.

4. Although some significant achievement test differences favoring Montessori students were observed, the strength of the relationship between achievement scores and method of instruction was slight.

5. In examining attitude gains, no significant differences were observed between first-grade comparison groups. In sharp contrast, significant differences favoring second-grade Montessori students were observed on each of the subscales and scale total. Whereas gains of experimental students were moderate, the posttest means of control students were less favorable than their pretest means.

6. When examining social behavior, no consistent pattern favoring experimental or control groups emerged.

Interpretation. In focusing on the points of sale typically offered by Montessori proponents, the evaluation results suggest that the Montessori students did appear better on two of the three points of sale. The Montessori students made slightly greater achievement gains and had slightly better attitudes. However, the Montessori students did not manifest the exemplary social behaviors predicted for them. In addition, classroom observation results seemed to substantiate claims that the Montessori method stresses an individualized approach to instruction.

Academic and Experiential Educational Opportunities

One of the organizational efficiency goals adopted by the DISD Board of Education for Texas Education Agency (TEA) Accreditation relates to organizing the learning process to meet individual needs. More specifically, the learning process should be organized to "take into consideration the personal goals of every student . . . so that each can achieve the educational standards of the system and be encouraged to remain in school until ready for a post high school career." Consistent with this goal, the DISD has operated a number of projects to provide academic and experiential educational opportunities for a variety of students at all points on the educational continuum (e.g. gifted, compensatory). Evaluations for seven such programs will be discussed in the following sections.

Speedreading/Scholarship Skills Project

The Speedreading/Scholarship Skills Project (SSSP) was a highly individualized, diagnostic, prescriptive, developmental reading course. Three areas of instruction were emphasized: reading efficiency, study efficiency, and college efficiency. Reading efficiency emphasized the improvement of reading speed, specific comprehension skill-building instruction, spelling improvement, and vocabulary development. The study efficiency area addressed notetaking, listening, underlining, test taking, library usage, understanding the writer, and memory skills. College efficiency included information related to college enrollment and registration procedures, counseling resources, choosing instructors, degree requirements, and college course options.

Evaluation results. Results of the evaluation conducted by Knecht and Grobe (SP79-411-31-01) are summarized below. The results were expected to indicate whether the program should be modified, and whether the program should be expanded to include more students.

1. The program was implemented as planned in all participating schools except Kimball High School. At Kimball, the SSSP curriculum was built into the eleventh-grade English program, and was required of all students in those courses.
2. Table 6 presents the results of tne Nelson-Denny Reading Test for Kimball and for all other high schools, respectively. As indicated by this table, the median reading speed for the 210 students at Kimball increased from 183 to 409 words per minute over a three month period, an increase of 123%. The median reading speed, for the remaining 1,060 students in the sample, increased by 161%, from 223 to 582 words per minute.
3. A comparison of the 1978 and 1979 spring test scores from the Iowa Tests of Educational Development (ITED) for a group of 300 SSSP participants revealed a mean increase from the 48th percentile to the 55th percentile for the comprehension subtest and a mean increase from the 49th to the 52nd percentile for the

Vocabulary subtest. Without any intervention or treatment, such as the SSSP, there should have been no expected change in the percentile scores of these students.

4. Scholarship skills, as measured for 805 participants by the Study Habits Checklist, improved from the pretest median percentile score of 27 to the posttest median percentile score of 66.

Interpretation. The results indicate that the program is quite effective in facilitating at least short-term improvements in reading rate, comprehension, vocabulary, and study skills. It is interesting to note that the program facilitated substantial gains by all eleventh-grade students at Kimball, as well as gains for the high-academic, college-bound students. Thus, the program seems to have an effect for students other than the high-academic.

Table 6

Change in Reading Speed as Measured by
The Nelson-Denny Reading Test

	Number	Median Reading Speed (in words per minute)		Change
		Pretest	Posttest	
Kimball High School	210	183	409	+226
All Other High Schools	1060	223	582	+359

Talented and Gifted Program

The Talented and Gifted (TAG) Program was originally designed as a full-time enrichment program for academically talented students. TAG was implemented in 65 intermediate schools at grades four, five, and six. Students selected for the program scored at the 80th percentile or above on the reading or the math problem-solving test of the ITBS, and/or had the recommendations of their teachers and of their school's TAG committee.

Evaluation results. The evaluation of TAG (Rick & Lym, SP79-400-31-08) was designed to determine (a) if the program was implemented according to plan and (b) if the program impacted reasoning abilities or academic achievement. Major findings are summarized below.

1. The classroom observations showed that TAG did differ from regular classrooms especially in the atmosphere and type of activities conducted. Another result related to implementation is that only one percent of the students who withdrew from the program did so because of having been misplaced in the program.

2. To measure reasoning abilities, the Cognitive Abilities Test (CAT) was administered in October 1978 as a pretest and in May 1979 as a posttest. The results of both the pre- and the posttest administration of the CAT are summarized in Table 7. Students who participated in the TAG program did significantly better on the posttest than was expected based upon their pretest performance. Pretest mean percentiles were highest for all grades on the verbal battery of the CAT. Pretest mean percentiles were lowest for the fourth and fifth grade on the nonverbal battery, and for the sixth grade on the quantitative battery. Posttest mean percentiles were lowest for all grades on the nonverbal battery.

3. To measure achievement, the Iowa Tests of Basic Skills (ITBS) were administered as a pretest in April 1978 and as a posttest in April 1979 through the District's System-wide Testing Program. Overall, the students who participated in the TAG program did significantly better on the posttest than was expected based upon the pretest scores. However, there were notable exceptions at the fourth grade, where posttest mean grade equivalent scores on the Vocabulary subtest and the Reading Comprehension subtest of the ITBS were significantly lower than expected.

Table 7

Achievement of TAG Students on the Cognitive Abilities Test

Test	Number[a]	Pretest			Posttest			Equipercentile USS[c]	%ile Gain	t
		Mean USS[b]	USS S.D.	Grade %ile	Mean USS[b]	USS S.D.	Grade %ile			
Grade Four										
Verbal	1035	118	14.41	71	129	15.37	78	125	+7	8.37**
Quantitative	1035	116	17.94	67	130	18.75	80	122	+13	13.73**
Nonverbal	1035	120	20.84	62	133	21.66	78	124	+16	13.37**
Grade Five										
Verbal	874	130	15.87	74	138	16.66	78	135	+4	5.32**
Quantitative	873	130	15.36	73	140	19.14	81	135	+8	7.72**
Nonverbal	874	131	20.13	71	138	18.98	75	136	+4	3.12**
Grade Six										
Verbal	787	136	17.28	69	145	17.16	77	141	+8	6.54**
Quantitative	787	134	19.04	66	146	20.08	77	139	+11	9.78**
Nonverbal	787	136	22.51	68	142	21.96	71	140	+3	2.55*

Note. Student's *t* calculated on the difference between the posttest mean USS and the equipercentile USS.

[a] Number of students with both pretest and posttest scores.

[b] USS: Universal Scale Score.

[c] The mean USS necessary to retain the equivalent percentile in the spring as was achieved in the fall.

$^*p < .05$

$^{**}p < .01$

Interpretation. The evaluation results suggest that the TAG program was implemented as planned and that it was quite successful in improving reasoning abilities and academic achievement. More specifically, participation in the TAG program produced positive effects on verbal, quantitative and nonverbal skills, as measured by the corresponding batteries of the Cognitive Abilities Test (CAT). In terms of academic achievement, the program's effect was strongly positive, though the areas of vocabulary and reading at the fourth-grade level may be of some concern.

Pushing Excellence in Pupils Program

Pushing Excellence in Pupils (PEP) was a program designed to expand upon the Baseline Curriculum in Language Arts and Social Studies for talented and gifted students in the East Oak Cliff Subdistrict. PEP was implemented in 12 schools with one PEP teacher per school. Three categories of students were served by the program: (a) high achievers, (b) highly creative students, and (c) students with high potential who had not demonstrated achievement commensurate with their potential (i.e., underachievers). PEP classes were to be multi-age (grades 4, 5, and 6) during the mornings when Language Arts and Social Studies were to be taught. Small group sessions were to be held in the afternoons for skill development as well as various enrichment activities. PEP was to provide a program which would strengthen reasoning skills. Academic achievement was to be emphasized. It was to accomplish this by modifying the curriculum and establishing an environment which would nurture academic learning, self-expression, and cultural affirmation.

Evaluation results. The evaluation of PEP (Rick & Lym, SP79-401-31-08) was designed to provide project management with information regarding: (a) implementation of the program, (b) academic progress of students by each admission category, and (c) perceptions of non-PEP teachers concerning the program. Results are delineated below.

1. In general, PEP was implemented as intended. More specifically, PEP provided instruction in Language Arts, Social Studies and a foreign language (French or Spanish), as well as enrichment activities. Some schools also included instruction in Mathematics and Science by the PEP teacher. Academic instruction was generally conducted during the morning, while small group sessions or enrichment activities were held during the afternoons.

2. The ITBS were administered as a pretest for all schools implementing PEP in April 1978, and as a posttest in April 1979. Results for the PEP students are summarized in Table 8 for each grade (i.e., grades 4, 5, & 6). Results for specific groups are summarized in the following narrative. Statistically significant decreases were found on the Vocabulary and Reading Comprehension subtests of the ITBS for the highly creative and high potential fourth-grade PEP students as well as for PEP fourth graders as a group. A statistically significant decrease was also found for the high potential students on the Math Concepts subtest. A statistically significant increase in Math Problem Solving was found for the high academic students and the fourth-grade as a group. For the fifth-grade PEP students as a group, a statistically significant decrease was found on the Reading Comprehension subtest. Statistically significant decreases were found on the Vocabulary, Reading and Language Total tests for the fifth-grade students with high potential. A statistically significant increase was found on the Math Concepts subtest and the Language Total for high-academic sixth-grade PEP students.

3. All of the responding teachers expressed a desire for the program to continue. Small class size and the opportunity for the students to work on their own level unrestricted by grade were most frequently mentioned as the best-liked aspects of the program. A concern was expressed that the students did not seem to have progressed as much as they should have during the year. Suggestions for change included grouping by two grades rather than by three, and for more time to be spent on enrichment activities and on independent projects.

Interpretation. As noted in Table 8, all grades exhibited some gains in mean grade equivalent scores for all subtests used. However, when

Table 8

Achievement of PEP Students on the *Iowa Tests of Basic Skills*

		Pretest			Posttest				Difference	Difference	
Test	Number[a]	Mean G.E.	S.D.	%ile[b]	Mean G.E.	S.D.	%ile[b]	Equipercentile G.E.[c]	Post GE - Equipercentile G.E.	Post %ile - Pre %ile	t[d]
Total - All Grade Four PEP Students											
Vocabulary	79	4.5	0.84	81	5.2	0.90	72	5.6	-0.4	-9	-3.95*
Reading	79	4.4	0.74	79	5.1	1.04	73	5.4	-0.3	-6	-2.56*
Math Concepts	80	4.0	0.75	68	5.0	1.01	66	5.0	0	-2	0
Math Problem Solving	78	3.9	0.81	62	5.1	0.99	70	4.8	+0.3	+8	2.68*
Total - All Grade Five PEP Students											
Vocabulary	67	5.1	0.87	70	6.0	1.24	66	6.1	-0.1	-4	-0.66
Reading	68	5.4	1.04	79	6.1	1.13	72	6.4	-0.3	-7	-2.19*
Language Total	61	5.6	0.94	77	6.5	1.23	74	6.7	-0.2	-3	-1.27
Math Concepts	67	4.8	1.11	61	6.0	1.51	66	5.8	+0.2	+5	1.08
Math Problem Solving	68	4.9	1.08	63	6.2	1.33	72	5.9	+0.3	+9	1.86
Total - All Grade Six PEP Students											
Vocabulary	90	6.1	1.23	69	7.2	1.36	71	7.1	+0.1	+2	0.70
Reading	90	6.2	1.16	74	7.1	1.43	71	7.2	-0.1	-3	0.66
Language Total	85	6.2	1.31	70	7.5	1.51	74	7.2	+0.3	+4	1.83
Math Concepts	89	5.5	1.12	53	6.7	1.48	59	6.5	+0.2	+6	1.27
Math Problem Solving	89	5.7	1.26	57	6.7	1.38	58	6.6	+0.1	+1	0.68

Note. Pretest given in April 1978 and posttest given in April 1979, language battery not given at primary level in April 1978.

[a] Number of students who received pretest and posttest.

[b] Percentile of the mean grade equivalent based on large city norms.

[c] The grade equivalent necessary to retain the equivalent percentile of the pretest mean grade equivalent.

[d] Student's *t*, testing the difference between the posttest mean grade equivalent and the equipercentile grade equivalent.

*Statistically significant at $p < .05$.

compared to the large-city norm group, the only significant increase, in the pretest-posttest comparison for whole grades, was found at the fourth grade for math problem-solving. When comparing pretest-posttest gains for specific groups (e.g., high achieving, highly creative, and high potential) with the large-city norm group, scores for the "high achieving" students exhibit positive changes for most subtests at each grade while scores for the "highly creative" and "high potential" students reveal a generally negative pattern. In sum, for achievement variables, the "high achieving" students are keeping pace with or surpassing the large-city norm group in most cases, while the "highly creative" and "high potential" students are falling behind in most cases.

Nutrition Education: Curriculum Training, Assessment and Resources Project

The Nutrition Education: Curriculum Training, Assessment and Resources (NECTAR) project was designed as a cooperative program with Education Service Center Region XIII (ESC Region XIII) to develop a framework for improving nutrition education by: (a) identifying learner outcomes for elementary and secondary students, (b) preparing a scope and sequence document for the learner outcomes, (c) constructing a pool of test items to assess learner outcomes, (d) developing a model staff development program for nutrition education, (e) completing an administrative implementation document, and (f) establishing communication with other nutrition projects and appropriate individuals.

Evaluation results. The purpose of the evaluation (Smith & Lym, SP79-451-31-04) was to document the implementation of the NECTAR project. Information concerning the implementation is summarized below.

1. The six objectives listed in the management plan were to be jointly implemented by the project staff and the Education Service Center Region XIII staff. The Dallas staff of the Nutrition Education: Curriculum Training, Assessment, and Resources (NECTAR) project completed their assigned tasks as scheduled.

Interpretation. The activities of the NECTAR project were implemented as planned, and consequently the project's objectives were met. However, investigation of progress toward meeting the learner outcomes cannot be accomplished until an instructional program in nutrition education is implemented.

Background Food Experiences in Kindergarten Classes

The Project Background Food Experiences in Kindergarten Classes (BFEKC), funded through the Foundation for Quality Education, provided teachers with training and funds to implement a program designed to introduce kindergarten students from low socioeconomic backgrounds to good nutrition through a wide variety of food tasting experiences. Each teacher received $40 worth of Kroger food coupons for use in the spring of the 1978-79 school year. Curriculum training was based on Dairy Council materials entitled "Little Ideas: An Early Childhood Nutrition Education Program." Workshop leaders demonstrated ways to teach children to (a) identify varieties of foods, (b) identify given foods in different forms and (c) identify and name food classes. In order to implement the program, foods were to be brought into the classroom to be tasted and prepared in various forms.

Evaluation results. The evaluation conducted by Smith and Lym (SP79-452-31-04) was designed to determine the extent to which the program was implemented both at the District and classroom level. Major results are listed below.

1. One hundred and two (102) teachers were trained in presenting nutrition information to kindergarten students largely from Title I schools. In order to implement the program, all the teachers received at least $40 worth of Kroger food coupons and were scheduled to receive another $40 worth of coupons in the fall of the 1979-80 school year.
2. The overall program was rated "excellent" by 82% of the teachers who responed to a survey, and 13% of the teachers rated the program "good." Five percent of the teachers gave no response to the question. Generally, the teachers' comments expressed appreciation for the program and hope that it would continue in the future.

Interpretation. Many teachers thought participation in the program would change the students' eating habits. If this can be substantiated through some sort of observation of the students' eating habits (e.g., in the school cafeteria), then the program will have been very cost-effective.

Summer Skills Youth Employment Program

The Summer Skills Youth Employment Program (SSP) was designed to provide vocational and on-the-job training (OJT) for disadvantaged youths who met the Neighborhood Youth Corps' economic criteria, had just graduated from high school, and wanted to enter the job market. One hundred and sixty-two students were selected to participate in the program. Skill training was offered in the following areas:

Automotive
Bilingual Secretary
Bricklaying
Clerical Occupations
Data Disc - Keypunch
Hotel/Motel Services - Adolphus
Hotel/Motel Services - Sheraton
Nurse's Aide - Baylor Hospital
Nurse's Aide - Parkland Hospital
Warehousing

Evaluation results. The evaluation of the Summer Skills Youth Employment Program (SSP) was designed to ascertain employers' and students' attitudes toward the program and to find out how many students were employed as a result of the SSP. Major findings are presented below.

1. Table 9 delineates those students completing the program by skill area and shows that students in the Bilingual Secretary, Bricklaying, and Nurse's Aide-Parkland Hospital were most successful in finding work and that students in the Hotel/Motel Services - Sheraton class were least successful in finding work.

Table 9

Students Completing the Summer Skills Program by Skill Area

Skill Area	Number of Students Trained	Number Employed	Percent Employed
Automotive	22	12	55
Bilingual Secretary	6	6	100
Bricklaying	4	3	75
Clerical Occupations	27	9	33
Data Disc	14	7	50
Hotel/Motel Services-Adolphus	7	4	57
Hotel/Motel Services-Sheraton	10	2	20
Nurse's Aide-Baylor Hospital	11	7	64
Nurse's Aide-Parkland Hospital	9	8	89
Warehousing	12	7	58
TOTAL	122	65	53

2. Of the 56 students who responded to the SSP survey, 26 (46%) were employed full-time, (over half of those were working in the field in which they had received training), 2 (4%) had joined the military (one of those was working in the field of training), 23 (41%) were neither employed full-time nor in the military, and 5 (9%) did not reveal their status.

3. The majority of the SSP students expressed favorable feelings toward various aspects of the program. Specifially, students felt that the SSP was effective and had provided them with useful training and that the SSP instructors were competent.

4. Employers gave very positive responses to statements concerning SSP students' job performance and to statements regarding the value of the SSP program. Of the students who received on-the-job training through the SSP, 65% were hired full-time by their employers, 12% were retained on a part-time basis, and 20% were not retained.

Interpretation. Both student and employer responses suggest that the program was relatively successful. Of course, the real criterion should be the number of students who were able to find employment after the training. There seems to be some discrepancy related to the number of students employed, as employers report hiring 65 percent of the students on a full-time basis and project personnel report that 53 percent were hired. However, even fifty-three percent of high school graduates employed would seem to indicate success, since unemployment statistics for this group are typically very high. In terms of improving the program, project staff should examine possible explanations for discrepancies in the success rates for different skill areas (e.g., 89 percent of the program participants at Parkland Hospital were employed; 20% in Hotel/Motel Services at the Sheraton were employed).

Youth Employment Training Demonstration Model

The Youth Employment Training Demonstration Model (YETDM) program was designed to provide disadvantaged students with increased employability and job-coping skills. The program was also to serve as a vehicle to facilitate entry into more advanced training programs. The YETDM program was to emphasize self-awareness, jobology, developmental skills, career awareness, and academic growth. Second- and third-quarter students participating in the YETDM attended regular classes in the morning and the YETDM for 3 hours in the afternoon for 12 weeks. The summer YETDM students met for 4 hours in the morning for 9 weeks

Evaluation results. The evaluation of YETDM (Donica & Lym, SP79-402-31-07) was designed (a) to assess the impact of the program on students' knowledge of careers and job survival skills, (b) to determine general reactions of students and employers, and (c) to determine if the project was implemented as specified. Results are summarized below.

1. Three groups of students participated: a second-quarter group, a third-quarter group, and a summer group. The summer students and second-quarter students showed an overall positive gain from pretest to posttest on a measure of functional literacy reading performance and on a measure of career awareness and job retention skills. However, the positive gains were not significant. Third-quarter students did not exhibit gains with the same measures.

2. The program did help students make a smooth transition from a school to work environment. Ninety-five percent of the students responded on the student questionnaire that they felt the YETDM adequately prepared them before placing them on the job. The employers were very complimentary of the students and the students' positive attitudes, cooperativeness and willingness to learn. The majority of the supervisors were very satisfied with the job performance of their YETDM student employees.

3. YETDM was implemented as specified. The students did receive the proposed 45 hours of academic/career counseling and student assessment, 75 hours of job-seeking and retention skills development and occupational information, and 60 hours of career exploration and on-the-job training. This varied slightly with each student depending on when the student was placed on the job.

Interpretation. The evaluation results suggest that the program was implemented fairly well. Furthermore, students and employers were well satisfied with the outcomes of the project. However, evidence of impact on students' knowledge of careers and job survival skills was not found in the test data.

Management Related Projects

The DISD has adopted an organizational efficiency goal which relates to efficient and cost-effective management of the District. More specifically, the District ". . . should be organized and conducted so as to achieve maximum cost-benefit results. . . ." Three evaluations were conducted to determine if such a goal was being met with regards to management related or supporting projects or programs. The Elementary Textbook project was an effort to seek effective alternatives to the present mathematics text used in DISD. The contracted services evaluation collected information related to services which could not be provided within the DISD in a cost-effective manner. The Canine Drug Detection Pilot Program was an effort to find a cost-effective solution to a problem in many schools.

Elementary Textbook Project

This project was initiated in response to the findings of a recent study by the Department of Mathematics. In this investigation, staff members concluded that several instructional objectives of the District were receiving inadequate coverage via state adopted MacMillan textbooks. Among several areas of concern were the coverage of word problems, metric concepts, computational skills, currency problems, number line concepts, and percentage problems. Thus, the primary goal was to select a supplemental mathematics textbook series from among three potential candidates published by Scott-Foresman and, Addison-Wesley Publishing, and Science Research Associates. Project activities included the field testing of the three textbook series in a preselected set of elementary schools. In addition, elementary facilitators were involved in measuring the extent to which the instructional components of the textbooks were in agreement with the instructional thrusts of the District's baseline. These activities occurred between late January and mid-May 1979.

Evaluation results. This evaluation (Almaguer & Zimmerer, SP79-432-31-02) was designed to provide decision-making information for the selection of a supplemental math textbook series. Specific findings are described below.

1. The Addison-Wesley and Scott-Foresman texts received the most favorable ratings with respect to their coverage of the District's baseline objectives; the Science Research Associates and state-adopted MacMillan textbooks received the least favorable ratings. Both the Addison-Wesley and Scott-Foresman textbooks received the most favorable ratings with respect to their physical attributes; nonetheless, Science Research Associates and state adopted MacMillan textbooks received the least favorable ratings. Both the Addison-Wesley and Scott-Foresman textbooks were ranked first and second with respect to their instructional attributes. Most of the textbooks were reported to be free from bias. In addition, open-ended comments received indicate that the Addison-Wesley textbooks are the most preferred series.

2. Reading grade level estimates were obtained primarily on fourth-, fifth-, and sixth-grade texts. In the remaining textbooks, these estimates were not computed because of an insufficient number of word passages. Overall estimates of the textbooks' reading levels in grade equivalent scores are summarized in Table 10. The estimates were computed on three 100-word passages which were selected from the beginning, middle, and end sections of the texts. Only words from word problems were used; instructions and incomplete sentences were not included.

Table 10
Overall Estimates of Reading Level
for Each Textbook

Textbook	Grade Level				
	2	3	4	5	6
Addison-Wesley	NC[a]	NC	4.2	4.8	4.4
Scott-Foresman	NC	3.6	3.8	4.0	4.4
Science Research Associates	NC	3.2	5.2	4.6	3.9
MacMillan	NC	NC	4.3	4.5	4.2

[a] NC = Not computed. Due to an insufficient number of contiguous word sentences, overall reading grade level estimates for these texts were not computed.

Interpretation. It is interesting to note that in all areas the state adopted MacMillan textbooks received the least favorable ratings. Close scrutiny of the findings suggests that the overall favorite was the Addison-Wesley series.

Contracted Services

During the 1978-79 school year, the Dallas Independent School District contracted more than $748,000 in services from outside agencies and institutions. The rationale for contracting these services was that they would provide benefits which were otherwise not available within the District.

Evaluation results. The evaluation of contracted services (Rieder, AA79-108-31-05) was designed to determine the effectiveness of the contractor in providing the service and to determine whether the contract should be renewed next year if a need for the services continues to exist.

1. A list of contracted services and agreements was compiled from the Board documents and files. The Department of Research, Evaluation, and Information Systems developed a "Format for the Evaluation of Contracted Services." Evaluation Formats were sent to appropriate District managers whose programs were most directly affected by the services. Twenty-two completed formats were reviewed and analyzed. All 22 of the formats (100%) indicated that the contractor delivered the service in an acceptable manner.

2. Contractors were reviewed and recommendations for renewal were given for all but one of the twenty-two contracts.

Interpretation. The evaluation results suggest two conclusions: (a) that DISD cannot provide certain services and (b) that in terms of cost-effectiveness certain services need to be contracted.

Canine Drug Detection Pilot Program

On July 21, 1978, in a communication with Mr. Coy T. Tindel, County Superintendent of Public Instruction, the Dallas Independent School District's General Superintendent entered into a cooperative agreement for the implementation of the Canine Drug Detection Pilot Program for the 1978-79 school year. At the request of the respective school principals, Justin F. Kimball High School, W. W. Samuell High School, and Thomas C. Marsh Middle School were approved for participation in this program. The District's major program goal was not law enforcement but rather keeping drugs out of school buildings.

Evaluation results. The purpose of the evaluation was to establish the effect of the program on the number of drug detections in the schools and to determine if the school search visitations were being conducted in accordance with the stated guidelines.

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1. The effectiveness of the dog in detecting drugs in the school appeared to be questionable, for in one case the dog did not detect the "plant." Furthermore, there seemed to be some consensus that the dog became increasingly prone to distractions as the pilot program progressed.

2. Anecdotal evidence suggested that the threat of the dog in the schools acted as a slight deterrent.

Interpretation. Evaluation results suggest that if the program is to be continued or expanded, it may be advisable to employ a dog which is more efficient in detecting drugs and less prone to distractions.

References

Almaguer, T. O. *Evaluation of the 1978-79 East Oak Cliff Life Skills Mathematics Program* (Report No. SP79-405-31-02). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, September 1979.

Almaguer, T. O. *Evaluation of the 1978-79 Fingermath Project* (Report No. SP79-407-31-02). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, September 1979.

Almaguer, T. O. *Evaluation of the 1978-79 Lau Program* (Report No. 79-431-31-09). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, August 1979.

Almaguer, T. O., Torres-Henry, R., & Zimmerer, L. *Evaluation of the 1978-79 Life Skills Mathematics Program for the Northwest, Northeast, Southwest, and Southeast Subdistricts* (Report No. SP79-404-31-02). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, September 1979.

Almaguer, T. O. & Zimmerer, L. *Evaluation of the 1978-79 Elementary Mathematics Textbook Project* (Report No. SP79-432-31-02). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, September 1979.

Anderson, M. & Murray, W. R. *Evaluation of the First and Second Grade Amelia Earhart Montessori Program, 1978-79* (Report No. SP79-429-31-30). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, July 1979.

Donica, J. A. & Lym, C. L. *Evaluation of the 1978-79 Youth Employment Training Demonstration Model* (Report No. SP79-402-31-07). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Grobe, R. P. *Pilot Accreditation Program: Overview* (Report No IE77-071 3-51). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July 1977.

Grobe, R. P. *Evaluation of the 1978-79 Hulcy Communication Skills Program* (Report No.SP79-409-31-01). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July 1979.

Grobe, R. P. *Evaluation of the Television Reading Program* (Report No. SP79-410-31-01). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, September 1979.

Hall, G. E., Loucks, F. F., Rutherford, W. L., & Newlove, B. W. Levels of use of the innovation: A framework for analyzing innovation adoption. *The Journal of Teacher Education*, 1975, *26* (1), 52-56.

Knecnt, M. A. & Grobe, R. P. *Evaluation of the 1978-79 Dunbar SUCCESS in Beginning Reading and Writing Program* (Report No. SP79-408-31-01). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, September 1979.

Knecht, M. A. & Grobe, R. P. *Evaluation of the 1978-79 Speedreading/ Scholarship Skills Program* (Report No. SP79-411-31-01). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, July 1979.

Lym, C. L. & Grobe, R. P. *An Interpretive Analysis of 1977-78 Program Evaluation Results* (Report No. SP78-313-61-30). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, September 1978.

Rieder, S. A. *Evaluation of Canine Drug Detection Pilot Program, 1978-79* (Report No. AA79-109-31-05). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, December 1978.

Rieder, S. A. *Evaluation of Contracted Services, 1978-79* (Report No. AA79-108-31-05). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, June 1979.

Rick, P. J. & Lym, C. L. *Evaluation of the 1978-79 Pushing Excellence in Pupils Program* (SP79-401-31-08). Dallas, Texas: Dallas Independent School District, Department of Research & Evaluation, November 1979.

Rick, P. J. & Lym, C. L. Evaluation of the 1978-79 Talented and Gifted Program (Report No. SP79-400-31-08). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Smith, G. B. & Lym, C. L. Evaluation of the 1978-79 Background Food Experiences in Kindergarten Classes (Report No. SP79-452-31-04). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, July 1979.

Smith, G. B. & Lym, C. L. Evaluation of the 1978-79 Nutrition Education Program (Report No. SP79-451-31-04). Dallas, Texas: Dallas Independent School District, Department of Research & Evaluation, September 1979.

Torres-Henry, R. & Almaguer, T. O. Evaluation of the 1978-79 David W. Carter Fundamental High School (Report No. SP79-406-31-30). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, September 1979.

Torres-Henry, R. & Grobe, R. P. Evaluation of the 1978-79 Teaching Reading in Content Areas Training Project (Report No. SP79-403-31-01). Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, & Information Systems, September 1979.

An Interpretative Analysis of the 1978-79 Special Education Program Data

Daniel J. Macy

The 1978-79 school year marked the seventh year of continuing research and evaluation conducted for the special education program in the District. Research and Evaluation personnel have worked very closely with special education managers throughout the past seven years, and studies conducted have been responsive to managerial information needs and have also led to more accountability on the part of District decision-makers. Special education managers and staff have been most cooperative in the carrying out of studies and, perhaps more importantly, have used research and evaluation results in order to improve the special education program.

1978-79 Research and Evaluation Studies

The purpose of this report is to provide a summary and interpretation of Special Education results contained in the following studies:

1. Special Education Data Base (SP79-415-31-08)
2. Special Education Context Evaluation (SP79-413-31-08)
3. Evaluation of the 1978-79 Child Find (SP79-417-31-08)
4. Evaluation of the Structured Environment for the Emotionally Disturbed (SEED) Project (SP79-430-31-08)
5. Context Evaluation of Special Programming for the Severely and Profoundly Handicapped (SP79-418-31-08)
6. Evaluation of the Multiple Careers Magnet Center and Assessment Center at William B. Carrell, 1978-79 (SP79-434-31-08)
7. Evaluation of Project KIDS (Kindling Individual Development Systems) (SP79-416-31-08)
8. Evaluation of the 1978-79 Project KIDS Outreach (SP79-419-31-08)

9. Second Level Project KIDS Theoretical Control Study (SP79-412-31-08)

Special Education Data Base (SP79-415-31-08)

Background. The special education data base evolved four years ago to meet the increasing information needs of both special and regular education administrators. These needs arose from a host of administrative tasks and issues including budget and program planning, federal and state reporting requests, student enrollment and appraisal/placement monitoring, due process procedures, and the need for more precise and accountable management. During its fourth year of operation, the data base, maintained by Department of Research and Evalutation personnel, continued to provide needed information to designated management. Primarily, this information consisted of demographic data about students needed day-to-day by special education management.

A major objective of the data base was the generation of reports to the Texas Education Agency (TEA) necessary for funding purposes. The Fall and Spring TEA Survey Packages tabulated the total number of children, ages 3-5 and ages 6-21, by handicapping condition. The Elementary and Secondary School Civil Rights Survey tallied, by each school, total special education students by sex, race, and handicap. Finally, statistical tabulations essential for the Annual Special Education Statistical Report to the TEA were generated.

Results.

1. Information was available from the data base for completion of the Annual Special Education Statistical Report to the Texas Education Agency. Special education managers also made use of student and teacher listings as generated periodically throughout the year. These lists provided a central information source that was available for quick reference and that was the most current possible.

2. Two specific computer programs, the tabulator program and extractor program, were written for the 1977-78 data base such that spontaneous information requested by management could be easily accessed and reported. The types of information requested usually dealt with totals and percentages of special education students with race, subdistrict, age, or handicap as potential variables.

3. The following reports were generated for management use:

   1) Faculty rosters disseminated every sixth week
   2) Student rosters disseminated every sixth week
   3) Child Find report (monthly)
   4) Fall TEA Survey Package
   5) Annual Elementary and Secondary School Civil Rights Survey
   6) Annual Special Education Statistical Report to the TEA
   7) Letters to the special education parents
   8) Mailing labels
   9) Miscellaneous reports and tabulations

4. Information from the data base was requested on an ad hoc basis on 90 different occasions during the year. The vast majority of these requests (82%) called for modified rosters of special students not routinely generated at six-week intervals.

5. A computerized method of class scheduling for the 1979-80 school year was implemented in the summer months, using a modified version of the process designed two years ago. The method minimized work time considerably.

6. A set of programs was developed to project next-year school locations for special education students based upon their neighborhood elementary schools and the District-wide school feeder system.

7. The additional functions of and revisions to the 1978-79 special education data base were:

   1) Collection of data on NCR coding forms so that personnel could retain a copy of all transactions
   2) Generation of new software necessary to disseminate:
      a. The Annual Special Education Statistical Report to the TEA
      b. The class summary roster
      c. The transportation cost analysis report
      d. The monthly Child Find report
   3) Increase of data collectors to include some psychologists and home-school coordinators
   4) Deletion of appraisal status information

8. Two validity checks were made on the accuracy of information

reported to the data base. These indicated that the percentage of errors had decreased from the previous year. The error rate for active special students not added to the data base was about 2%.

9. The cost of complete data base operation was ascertained by dividing the system into five major functions and charting the hour costs utilized to perform each service. Table 1 presents the total number of days spent on each data base function, given two computer programmers, one assistant evaluator, one principal evaluator, and one secretary. Assignment of cost to each function was achieved by totalling each employee's daily salary multiplied by the number of days utilized for each function.

Table 1

Data Base Cost Analysis[a]

Data Base Function	Total of Days Utilized by Staff	Total Cost
Routine report generation	175.5	$12,354.39
Data collection and system maintenance	114	$ 6,554.11
New software development[b]	145	$11,529.74
Special projects[c]	107	$ 8,299.98
Unscheduled report generation	40	$ 3,049.79
Total	581.5	$41,788.01

[a] Cost figures do not include computer time.

[b] New software was developed for the Annual Statistical Report, the Child Find Report, and for data base improvements.

[c] Special projects included the class scheduling process and the development of an enrollment projections system.

> One isolated bit of cost-benefit information came out of one end-of-year ad hoc request for detailed transportation data. The cost of providing the data was about $800 (in terms of professional salary), but the request to the state for transportation reimbursement to the District involved about $600,000. A manual response to the information request would easily have entailed a cost of $2,000 in data collection and possibly critical delay in responding to the state. Another cost study found that the computer-generated 1977-78 annual TEA statistical report "cost" $6,137 less than the 1973-74 manual report (completed by teachers) and required 2 1/2 fewer months to complete. Both reports included about 9,200 students.

Interpretation. The data base provided routine student and faculty rosters concurrent with the District's six-week reporting schedule and also provided a variety of ad hoc program reports via specially developed programs. These enabled staff to respond to management ad hoc information needs within one to two days, or a few hours in many cases, and the accuracy of the data in the computer files was judged to have improved from the previous year. While personnel were to report changes daily (via a coding form and the school mail service), delays did occur, and management did not always have access to the most immediate information. Nevertheless, the 1978-79 year likely saw the most accurate and comprehensive information ever available to decision-makers.

The data base provided invaluable service in the generation of reports requested by the state and federal governments. Ancillary services were also provided in the form of computer generation of class assignment letters for students and varied sets of mailing labels as needed by selected managers, thereby saving considerable secretarial resources. In addition, the data base played a major role in the annual process of scheduling students into special classes for the fall term.

The data base is currently deficient in not being able to provide monitoring information about the status of students in the appraisal placement process of special education. Such information should include at least the dates of all key events such as parent approval, educational appraisal, Individual Education Program (IEP) review, and so forth. A computerized system to do this has been successfully used in the child find project (Project Zero Reject), and a similar system is needed for special education students. Such a system is currently under development and data input will be via computer terminals from the subdistrict offices. A manual system for recording such information was initiated in September 1979.

Another significant area of development in special education has been the computerization of data about transportation for special students. Transportation has traditionally been a major problem area, and procedures initiated this past fall should permit much more accountability. Computer programs already developed will greatly assist responding to a request from TEA for a monthly transportation report.

In summary, considerable gains are being made toward efficient storage and retrieval of information about the special education program in terms of student enrollment and service. The gap between needs and the capability to respond is narrowing each year in the special education program.

Special Education Context Evaluation (SP79-413-31-08)

Background. The District special education program attempts to provide appropriate education for every exceptional child. Special education makes use of a continuum of instructional arrangements which range from complete regular classroom instruction to total self-contained instruction in a special campus setting. The program attempts to provide individualized instruction for each student.

Results. The study conducted was only a limited context evaluation of the implementation and operation of the total special education program. The data source was the special education data base, and the time of data collection was June 30, 1979. Findings of the study were:

1. Special education served a total of 10,238 students during the 1978-79 year. This was 7.70% of the total District student population. The number and percentage served during the past four years were as follows:

	1975-76	1976-77	1977-78	1978-79
%	5.67	5.78	6.84	7.70
N	8,250	8,051	9,244	10,238

   The program served almost 2,000 more students in 1978-79 than four years ago.

2. The percent of total students served in special education for subdistricts ranged from 9.4% in the Southeast Subdistrict to 4.8% in the East Oak Cliff Subdistrict. The percent served was about 7.0 in the remaining three subdistricts.

3. Analysis of racial composition of the special education population revealed that ethnic representation was comparable to total District representation. This finding was consistent with the previous two years. Table 2 shows these comparisons across the past three years.

4. The percent dismissed from special education over the past three years was as follows:

1976-77	1977-78	1978-79
21.6	15.7	17.6

Interpretation. The data show an increase in the percent of total District student population served in special education. The percent served during the 1978-79 year was consistent with the average percent served by large-city schools. At this point in time, there seems to be no clear basis for determining what is the appropriate percent to be served in special education. Authorities do not agree on an appropriate percent, and a wide range in percent served is evident at the national level. However, the question is important since, in a district the size of the DISD, even 1% below the appropriate service percent would mean about 1,400 handicapped students potentially in need of special services.

Table 2

Enrollment Racial Percentages in the Total
District and Special Education over
a Three-Year Period

		1976-77	1977-78	1978-79
White	Total District	37.6	35.5	33.3
	Special Education	43.4	41.6	39.9
Black	Total District	46.9	48.2	49.2
	Special Education	44.8	45.3	46.2
Hispanic	Total District	14.3	15.2	16.4
	Special Education	11.3	12.4	13.2
Other	Total District	1.2	1.1	1.0
	Special Educaltion	0.5	0.7	0.8

The percent served according to subdistrict ranged from 4.8 in the East Oak Cliff Subdistrict to 9.4 in the Southeast Subdistrict. A similar pattern among subdistricts was evident in 1977-78 when the percent served ranged from 8.0 in the Southeast Subdistrict to 4.0 in the East Oak Cliff Subdistrict. The changes from 1977-78 to 1978-79 did not indicate increased differences among subdistricts in terms of percent served. Clearly, the percent served in the East Oak Cliff Subdistrict was less than in other subdistricts. If one assumes that the incidence of handicaps is the same in all subdistricts (@ 7.0 %), then one would expect there to be about 586 additional handicapped children in the East Oak Cliff Subdistrict who were not served in the District special education program during the last year. The extent to which any such children received an appropriate education program is not known. The East Oak Cliff Subdistrict does, however, offer alternative programs which are not available in other subdistricts. On the other hand, referral procedures in this subdistrict may need to be reviewed to ensure that all handicapped students are receiving an appropriate education.

Evaluation of the 1978-79 Child Find (SP79-417-31-08)

Background. Project Zero Reject provided outside funding for development of the District's child find system. Three-year funding for the project ended June 30, 1978, so 1978-79 was the first year of local continuation of a child find system. The child find project sought to continue its efforts toward refining a model system for locating out-of-school and unserved handicapped children in a large urban setting and to monitor these children from identification through placement. Project staff was reduced by 50% this year since the project had completed its developmental phase and was integrated into normal District operating procedures supported by local funds. Project activity during the fourth year placed its greatest emphasis on the child find effort itself and the provision of services to the located population. The project continued the development and maintenance of its computerized information system at the local level for the storage and retrieval of information on identified children.

Results. The scope of the evaluation was very limited when compared to previous years, but the intent was to obtain some continuity with the three previous years of funded implementation. All data were collected from project records maintained through the child find office. These include the Intake Worksheet and the computerized child find information system. Results of the evaluation were as follows:

1. The project's 24-hour telephone system received a total of 187 referrals from July 2, 1978, through May 31, 1979.
2. The major referral agents noted this year were parents, DISD school personnel, and various community agencies, all of which accounted for more than 80% of the 187 referrals received this school year.
3. Approximately 90% of the 187 referrals received this year were from the target population of out-of-school and unserved, handicapped children.
4. On the average, over three-fourths of the referrals received each year have been children at or below the elementary school level, with over one-half of the children being between three and five years of age.
5. Placement was established for approximately 61% of the 187 children referred. Last year about 64% of the population referred were placed.
6. The children placed (by August 15, 1979) waited an average of 15.7 weeks from referral to placement.

Interpretation. The child find system implemented in the 1978-79 year used the most effective components identified in Project Zero Reject, and these were essentially the 24-hour answering service and interface with community service agencies. As in the past, the major referral sources were parents, DISD personnel, and community agencies.

The number of referrals received (N=187) indicates a continuing need for a child find system, but there is little standard for judging the adequacy of this number. When compared to previous years, the 1978-79 referral rate appears to represent a "leveling-off" in numbers of referrals received. However, one significant finding is that the age of children referred indicates a significant trend toward increased numbers of preschool children being referred in child find. The percents of children age five years and younger referred over the past four years were: 43%, 56%, 76%, and 80%, respectively. These data have substantial impact on the interpretation of the adequacy of the number of referrals received each year. In effect, child find may have become more of a preschool screening program than a comprehensive system to find all unserved, handicapped students. On the other hand, one might reason that all or most of the older, unserved handicapped have been found, and there may be fewer older students who are unserved.

A significant encouraging interpretation of the above trend in age of referred children is that the child find system has become increasingly effective in locating the young, unserved handicapped. Early intervention with the handicapped is considered critically important, and the child find system has contributed to making this possible for more children.

One issue surrounding any child find project is the delivery of service to students located in the project. About 61% of the children found were out of referral and into a placement setting as of August 15, 1979. During previous years, placement was established for 38%, 58%, and 64% of the referrals, respectively.

An average of 15.7 weeks was required for project referrals to begin receiving service. This was an increase over the 8, 10, and 13 weeks required in the respective previous three years of child find. These data indicate a need to review and possibly modify referral procedures in order to decrease the time from referral to placement. This review should likely concentrate on procedures affecting the preschool referral population.

One final consideration would be a possible need to conduct a limited child find media campaign, possibly in the 1980-81 year. DISD and agency personnel continued to be the two major sources for obtaining the child find telephone number. These two sources alone accounted for an average of 79% of the indirect referrals to the project during the past three years. However, these sources likely do not cover the total target population.

Evaluation of the Structured Environment for the Emotionally Disturbed (SEED) Project (SP79-430-31-08)

Background. Project SEED is a Dallas Independent School District model program for emotionally disturbed students. The program is designed to organize the instructional ecology for more severely disturbed students through the provision of carefully sequenced experiences. The focus of the sequence was the provision of carefully identified increments of learning, provided within three structured levels of the project, which were to allow the severely disturbed student to be accommodated in increasingly less restrictive environments. The components of the three-level structured environment included behavior management strategies, curriculum interventions, parental involvement, and therapeutic interventions (group and individual counseling support).

Project SEED was implemented in two schools located on District campuses where the regular continuum of curriculum and student services were provided in both regular and special education classrooms.

Results. Evaluation data included classroom observations and collection of attendance, behavior, and parent involvement data from project records. The Wide Range Achievement Test was used to gather a measure of educational progress. Findings from the study were:

1. A total of 53 students, 26 elementary and 27 secondary, identified as severely emotionally disturbed, were served by the project. The ethnicity of the project population was 47% (N=25) White, 43% (N=23) Black, and 9% (N=5) Hispanic. Male students constituted about 77% of the project population. The intellectual functioning of the population as measured by the Weschler Intelligence Scale for Children (WISC), was described as low average. The scores ranged from 51 to 102 and the average intelligence quotient was 72.2.

2. Data collected during the process evaluation indicated that problems in implementing the project as specified existed at both sites. The home-school coordinator and the educational diagnostician were not available to the project until January 1979 and March 1979, respectively, due to difficulties in filling their vacated assignments within the District. Teacher's aides experienced in working with severely emotionally disturbed students were difficult to find, and the salary scale was reportedly insufficient to keep them once employed.

3. Existing space sufficient for classrooms, "breakrooms," and office space were allocated to the project at both sites. The secondary site was also allocated room for group counseling and "time-out." A crisis room did not exist at either site, and proposed building modifications were not completed.

4. Project components of curriculum and therapeutic intervention, behavior management, and parental involvement were observed to have been implemented as specified with some exceptions. Emphasis on parental involvement occurred at the elementary site only. Classroom observations indicated a need for a systematic approach to curriculum intervention to facilitate individualization of instruction and progression through the levels of the project.

5. Behavior management strategies could not be completely implemented as specified due to a lack of specified "time-out" and "crisis" room facilities.

6. Of the 26 students enrolled at the elementary site, 14 (53%) moved from Level I to Level II. At the secondary site, 20 (74%) of the students enrolled moved from Level I to Level II, and 4 (15%) moved from Level II to Level III. Re-integration into the regular classroom was attempted for three (11%) students. Two of the latter students were returned to project classrooms, one at the request of parents and the other due to District policy. Only one student was moved to a lower level structure due to failure in maintaining appropriate behaviors.

7. Overall, no appreciable reduction in disruptive behaviors was noted, as measured by "time-out" incidents at the elementary site and teachers' daily charts of earned social points and fines at the secondary site.

8. Daily average attendance at the secondary site was 43.4%. At the elementary site, daily average attendance was 81.5%. The drop-out rate for project students was 9.43% involving five students at the secondary site. The drop-out rate for emotionally disturbed students District-wide was lower at 1.61%.

9. Surveyed parents (N=12) of project students reacted positively to the program, whereas the nonproject teachers, staff members, and administrators surveyed (N=27) indicated mixed reactions.

10. For the first year, costs specific to the Project totaled $133,712.00. The additional daily expenditure per child above the regular District per child expenditure was about $27.39.

11. Educational progress, based on the Wide Range Achievement Test, could not be measured because posttest results were not available.

Interpretation. Results of the study identified problems in implementation of the project which existed at both sites. In addition, procedures developed for determining when individual students had reached criterion for advancement were found to be inconsistent with the program goal of promoting school appropriate behaviors. One factor contributing to the implementation problems appeared to be the timeliness of the Federal grant award. Grant monies were not officially awarded to the District until October 1978, and a full complement of staff was not assigned to the project sites until March 1979. In addition, provisions for a "time-out" room at the elementary site were not made while the "time-out" room at the secondary site consisted of a standard classroom.

Observations revealed that the behavior management strategies were being implemented inconsistently. Records of student progress toward achievement of behavioral objectives were generally contradictory or incomplete. Students who reached criterion for movement to a less restrictive level of the project, according to the schedule of fines and social points, were apparently able to do so without exhibiting an appreciable reduction in disruptive behavior.

There was evidence that the project model was effective in promoting school-appropriate behaviors for some children. However, assessment of the actual impact of the intervention would depend on the consistent implementation of procedures which are compatible with program goals and objectives.

Context Evaluation of Programming for the Severely and Profoundly Handicapped (SP79-418-31-08)

Background. Programming for the severely and profoundly handicapped (SPH) children in the District provided training in areas such as self-help, motor development and language development. Direct services to SPH children in the form of instructional and developmental activities were conducted by the Developmental Center teacher. Indirect services were provided by physical therapists, occupational therapists, speech clinicians, and medical personnel. Special facilities, equipment, materials and transportation were provided to meet individual needs.

Indirect services were also provided through Project SPICY (Severely and Profoundly Impaired Children and Youth), a model program cooperatively implemented by the District and the University of Texas at Dallas.

Results. Student progress data came from standardized tests of developmental and pre-academic progress. Instructional environment data were collected from Individualized Education Programs (IEPs) and questionnaires to principals, teachers and parents. Results of the evaluation were as follows:

1. The sixteen Developmental Centers and the three trainable mentally retarded (TMR) units at Hillcrest North served 134 severely and profoundly handicapped students. Students were characterized as having at least two of the impairments which follow: (1) inability to walk, (2) severe retardation, (3) self-stimulating or self-abusive behaviors, and (4) self-care skill deficits. Approximately 83% were described as trainable mentally retarded. The students ranged in age from 3 to 21, and there were almost twice as many boys (N=89) as girls (N=45).

2. Data from the review of IEPs revealed that goals and objectives written for SPH students generally addressed the areas of need as reflected by scores on the Callier-Azusa developmental scale. Specific educational programs for each student were judged by a panel of experts to be technically complete and adequate to meet the needs of the students for whom they were written.

3. Responses of administrators and teachers were mixed when asked to identify the unique needs of a severely and profoundly handicapped (SPH) population. Overall, administrators perceived the needs of the SPH students to be related to the physical facilities and classroom personnel. Approximately 75% of the administrators surveyed (N=12) reported no adaptations other than physical facilities. These adaptations included carpeting; wheelchair ramps; handrails; lower toilets, sinks and water fountains (all with adaptive fixtures); and smaller tables, chairs and shelves. Most adaptations had been completed satisfactorily with the exception of adaptive plumbing at three sites and handrails at three sites. Availability of teacher's aides and qualified substitutes was reported as a problem by 50% of the administrators. An additional aide was assigned at two sites, while three other sites reported the use of parents, early childhood aides, and aides assigned to lunchroom duty only in place of full-time aides. Substitutes for teachers and aides remained a problem and administrators reported very little success in determining alternative solutions.

4. Teachers identified the provision of support personnel as being the most unique need of the severely and profoundly handicapped student. Approximately 40% of the teachers responding (N=13) indicated that direct therapeutic services from physical therapists, occupational therapists, speech clinicians, psychologists and visiting teachers were needed by the SPH student but were unavailable due to limited personnel. Teachers reported that support personnel available on a consultative basis only was not a successful solution because of "disorganization" of the many departments and lack of coordination of the services. Two alternative solutions perceived by the teachers as successful were the additions of a half-time liaison from the Dallas Mental Health Mental Retardation (MHMR) Association to assist teachers in classroom management and the services provided by the supervisor of parent trainers from the University of Texas at Dallas (UTD) Project SPICY.

5. Data indicated that opportunities for involvement provided by the District to parents of severely and profoundly handicapped children were in accordance with Public Law 94-142.

6. Pretest/posttest data using the Callier-Azusa developmental scale were available for only nine students. These results did show evidence of progress in some developmental areas. Gains for all nine students ranged from one to thirteen months during the six month pretest to posttest period.

Interpretation. Results of the study indicated that accommodation of SPH children in the public schools appeared to be practical in terms of provision of resources. Principals of schools housing the Developmental Centers and TMR units reported little or no difficulty in providing the appropriate physical facility modifications, special equipment and materials, or competent professional staff to meet the unique needs of these students. The shortage of teacher's aides and qualified substitutes noted by principals is consistent with District-wide conditions in both regular and special education. These observations seem to indicate the successful solution to adaptations unique to the SPH child while underscoring a continuing problem within the school system.

There was evidence that appropriate educational programs were being provided for these students, resulting in student developmental progress. When taken as a measure of a student's instructional environment, the Individualized Education Programs (IEPs) were found to be adequate and responsive to the student's needs. However, there was also evidence which indicated the need for more cooperation among service departments in development of the IEPs and in the provision of direct services.

Evaluation of the Multiple Careers Magnet and Assessment Centers at William B. Carrell, 1978-79 (SP79-434-31-08)

Background. This study addresses two centers established at W. B. Carrell for the delivery of vocational services to handicapped secondary students. The Multiple Careers Magnet Center (MCMC) is a part-time magnet school to provide special education students with career training. The Assessment Center is available to any secondary special education student to assist in planning for a career in which he/she is most likely to succeed. The first year of operation for both centers was 1978-79, but students did not really begin receiving services until January 1979. The MCMC offered six career education clusters. These were: furniture repair and upholstery, general construction trades, building and grounds maintenance, laundry and dry cleaning, food services, and housekeeping and commercial sewing. Students attended the MCMC either during the morning or afternoon and spent the remainder of the day in their home school.

The Assessment Center provided evaluation of work values, vocational interests and aptitudes, as well as attitudes toward work and social skills. Assessment techniques included work samples, interviews, and interest and aptitude inventories. Throughout the assessment process, counselors gave feedback so that students could become aware of their own strengths and interests. When students were recommended for extended assessment (beyond three weeks), they moved into a special education resource room for career exploration or work adjustment. At the conclusion of assessment, recommendations for vocational training and/or employment were made.

Results. The evaluation included demographic study of students, staff, and Advisory Committee members. Interviews were conducted with students, staff, and parents. Questionnaires were also sent to administrators and appraisal personnel in DISD schools. Major findings of the evaluation were:

1. Total enrollment for the spring semester was 64. The breakdown by handicapping condition reveals that the MCMC was serving primarily special education students who were mildly handicapped (97%). The MCMC distributions for sex and ethnicity were quite similar to the District distributions. The MCMC student body was 63% male. The ethnic representation was 48% Black, 6% Hispanic, and 45% White.

2. The Assessment Center provided vocational assessment for 120 special education students. A majority of these students were male (60%). The ethnic distribution was 49% Black, 6% Hispanic, and 45% White. These figures were representative of the DISD special education sex and ethnic distributions.

3. An examination of transportation records revealed that, for afternoon MCMC students, there were severe scheduling problems. With few exceptions, afternoon students were delivered 30 or more minutes late. In addition, the afternoon students always had approximately an hour wait before the buses began the trip back to the home schools.

4. The Individual Education Programs (IEPs) were completed for all students and were instructionally functional in April 1979. A random sample of 30 IEPs was inspected for the technical quality of the objectives listed for each student. The objectives listed on the IEP seemed to be realistic estimates of students' potential. That the objectives were attained was verified by on-site visits of the classroom, student interviews, and conversations with the student counselor.

5. Student, parent, and faculty attitudes towards the MCMC were highly favorable.

6. For students attending the MCMC in the morning, 27% had no academic class, 36% had one academic class, and the remaining 37% had two or more academic classes. In sharp contrast to these figures, for students attending the MCMC in the afternoon, 100% had at least one academic class while 87% had two or more academic classes.

Interpretation. An appreciable number of handicapped students (N=64) did attend the MCMC during the spring semester, and the Assessment Center provided vocational assessment for 120 special education students. Physical modifications of the building in progress during November 1978 suggested that very few students would have actually received service during the 1978-79 school year. However, modifications to the building were basically complete by mid-year, and most equipment installations for career clusters were in place by the end of the year.

Another significant accomplishment of the instruction delivered in the MCMC was the strong positive reaction reported by students and parents. One limitation surrounding reports from students was a possible response bias toward giving an overly positive response. It is commonly believed that retarded people are eager to please and gain social approval. Therefore, one might argue that student reaction may not have been really as positive as the interview data indicated. However, the open and warm atmosphere observed in the MCMC tended to counter this interpretation. The finding that students' Individual Education Programs (IEPs) were instructionally functional was also significant. Instructional objectives were judged to be realistic for students, and attainment of IEP objectives was verified by classroom visits, student interviews, and reports from the student counselor.

Results showed that the MCMC had basically served a moderately retarded population, and that the Assessment Center had served a high percentage of moderately retarded students. In neither case were the service populations representative of the District's total special education population. The range of career opportunities offered in the MCMC clusters may not have been adequate, but a more general issue was the mainstreaming of secondary special education students into the District's career education. There is a need to work toward mainstream vocational education for many of the kinds of students served in the MCMC.

One significant problem identified was the availability of basic academic instructon to MCMC students. Study of student schedules showed that students attending the MCMC in the morning received substantially less academic instruction than those attending the MCMC in the afternoon. This was apparently due to the fact that academics are primarily scheduled in the morning rather than afternoon in most high schools.

A second problem encountered was the extent of time students spent waiting for the bus. While this was a relatively minor problem for morning MCMC students, those who attended MCMC in the afternoon typically arrived 30 minutes late at the center and had to wait about 60 minutes for the bus for their return trip. However, a schedule change in the MCMC afternoon program did a great deal to alleviate this problem before the spring term finished.

Evaluation of Project KIDS 1978-79 (SP79-416-31-08)

Background. Project KIDS (Kindling Individual Development Systems) is a Dallas Independent School District model program for handicapped infants, toddlers, preschool children and their families. The project serves developmentally delayed and physically handicapped children from 0-60 months of age, with services delivered through three methods: a home-based training program, center-based infant stimulation classes, and eight school-based early childhood class units. Project KIDS attempts to integrate the child's parents into the instructional role in cooperation with project staff. The administration and organization of the project is built around four components: children, parents, staff development, and demonstration/dissemination.

To understand KIDS implementation in the DISD, one must also be aware of the KIDS Outreach project. Outreach monies were granted to exemplary projects in order to replicate the concepts and services provided in the initial project models. In the case of Project KIDS, Outreach has extended the KIDS model to an additional 21 of the District's early childhood special education classrooms and provided replication opportunity for three regional school districts. Replication in non-DISD sites is accomplished in coordination with the Educational Service Center, and all participating non-DISD sites have requested KIDS replication.

Results. Student progress data came from the project developmental scale and standardized tests of developmental progress. Parents completed a project reaction questionnaire and a self-assessment of competency levels. Other data regarding demographic characteristics were collected from project records. Results of the evaluation are summarized as follows:

Student and Parent Demography

1. Project KIDS provided instructional services to 148 handicapped infants and preschool children during the 1978-79 year. This was an increase of 20 over the previous year. (This total did not include either DISD or non-DISD Outreach sites.)

2. According to ethnicity, the largest proportion of children served was Black. The ethnic composition of Project KIDS was: 70 (47.3%) Black, 61 (41.2%) White, 16 (10.8%) Hispanic and one (0.7%) other.

3. Project KIDS Outreach expanded the program to include all early childhood classrooms within the DISD's special education program. This outreach expansion included the implementation of the Project KIDS model in 21 classrooms in 17 schools in addition to the home program, center program and original eight school-based classrooms. Also, three regional school districts began implementation of the Project KIDS model through the Outreach program (see Report No. SP79-419-31-08).

Student Progress

4. Project KIDS students made some significant improvement in areas of developmental delay during the 1978-79 year as measured by a developmental scale and two standardized tests. Along with a survey of parental judgments of student progress, results from the three evaluation methods provided concurrent evidence to support the conclusion that students had made progress.

5. For the younger children in the home and center programs (ages 0-30 months), raw scores (N = 12) on the Bayley Mental Scale significantly increased from pretest to posttest (12-month interval). The average gain in months on the Mental Scale was 5.5, with a range from 0.5 to 13.1 months.

6. For randomly-sampled children (N = 25) in the school-based early childhood classes, raw scores on the McCarthy Scales general cognitive subtest significantly increased from pretest to posttest (seven-month interval).

7. Significant gains were made by children (N = 78) from pretest to posttest on the KIDS Inventory of Development Scale, a developmental checklist developed by the Project KIDS. Scores, as determined by the number of developmental tasks successfully completed by the students, increased significantly in all four areas of the inventory: gross motor, fine motor, cognitive/language, and self-care.

Parent Needs, Preferences and Reactions

8. Parents identified their needs and strengths in the following areas:

Needs

- Can set goals for the child which are realistic for the child's abilities.
- Can set rules and limits for the child's behavior and consistently enforce them.
- Can use everyday activities as learning opportunities for the child.
- Can make plans for the future of the child.

Strengths

- Can provide good health care including a balanced diet, home safety, cleanliness and medical attention.
- Can accept the child as a unique and valuable individual.
- Can give the child a stable home life.

9. Parent responses were used to design individualized training programs for the parents, who selected activities according to their identified needs. In the selection of activities, the most popular categories of activities were reading books and performing other individual tasks. However, these activities were also the categories most frequently offered through the Parent Self-Appraisal Inventory.

10. Results of the parent reaction survey indicated that parents held highly favorable attitudes toward the Project KIDS program.

Interpretation. The project served 148 handicapped infants and preschool children during the year, and the demography of the population served was consistent with project goals and objectives. Of these, about 30% received home instruction, and 59% received instruction in DISD early childhood classrooms for the handicapped.

There was evidence that project intervention was effective in improving the developmental progress of children served. Pre-post measurements revealed significant gains, and analysis showed these gains generally to be greater than expected from a regression to the mean effect (a statistical phenomenon usually present in pre-post observations with handicapped or gifted populations). Results of the Project KIDS Theoretical Control study also showed that observed gains were greater than that expected from just growth and maturation. However, there was evidence of reduced effectiveness when compared to the previous year.

The project continued work in identifying and prioritizing competencies needed by parents of young handicapped children. These provided a sound empirical basis for planning parent involvement activities in the project. Parents rated their own level of competence on priority competencies and selected individualized instructional activities to improve competency levels. One measure of the success of the parent involvement component of KIDS came from the survey of those parents who had participated for three years in the KIDS parenting component. These parents expressed enthusiasm about the parent training and a desire to continue participation.

Parents reacted very favorably to the project and also expressed confidence in the project staff. Parents also reported a belief that their children had progressed while in the project. These findings were consistent with previous evaluations.

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Evaluation of the 1978-79 Project KIDS Outreach (SP79-419-31-08)

Background. Project KIDS Outreach is a first-year program designed to increase the number of quality programs for young handicapped children through replication of the Project KIDS model, which is a DISD program for handicapped infants, toddlers, preschool children and their families. The program, which is financially supported by the Bureau of Education for the Handicapped in the U. S. Office of Education, is part of a nationwide network of early childhood projects for the handicapped. The three potential service delivery program settings include a home-based training program for infants (0-24 months), a center-based training program for toddlers (24-36 months) and a school-based early childhood program for preschoolers (36-60 months). The KIDS Outreach component concentrates its service delivery efforts on the school-based early childhood population (three- to five-year olds). The support systems provided for each setting include an appraisal/curriculum component, staff development, parent involvement and a program evaluation component.

Outreach monies provided for replication of the KIDS model for early intervention for the handicapped, and permitted implementation of the KIDS model in an additional 21 early childhood special education classrooms in the District. Three regional school districts also opted to implement components of the KIDS model. The Educational Service Center, Region X, advised districts of the availability of KIDS Outreach as part of its services to regional schools.

One should note that Outreach monies did not allow for support of teacher units, but rather for the provision of technical assistance in implementing the KIDS model. Therefore, in all replication sites, including both DISD and non-DISD, project staff were only available to provide technical assistance to the existing professional staff.

Results. Since this was the first year of Outreach implementation, only limited student progress data were collected. Data collection also included classroom visits, personal interview, mail-out questionnaire, and review of project records.

Implementation Scope

1. The Project KIDS Outreach program was implemented in 21 classrooms (17 schools) within the Dallas ISD and four classrooms (three schools) within the Duncanville ISD, the Grand Prairie ISD and the Lancaster ISD during the 1978-79 school year. Evaluation results were reported in terms of 24 Outreach classrooms, as one classroom at the regional level that was added to the program later in the year, was not included in the evaluation process.

2. Resources provided through the DISD included materials and technical assistance in model implementation. Some teachers also reported having received services and assistance from various support personnel such as occupational and physical therapists, psychologists, etc., and the use of libraries, and resource materials. Those resources provided through the Region X Education Service Center generally included materials and equipment.

Student Demography

3. A total of 232 children were served in Outreach during its first year. The majority of the students, 190, were served in the DISD, with the remaining 42 students being served in the regional Outreach sites.

4. Students served in Outreach were about 61% (N=115) male and about 39% (N=75) female, with comparable proportions noted in both local and regional sites. The largest ethnic population served across all Outreach sites was White (54.7%).

Implementation Deficiencies

5. Implementation problem areas cited by teachers included difficulties in administering the Parent Self-Appraisal Inventory and difficulties in using the KIDS Inventory of Development Scale. Teachers reportedly lacked appropriate materials and equipment for the Inventory, and some teachers questioned the applicability of the Inventory.

6. About one-half of the 24 Outreach teachers cited specific staff development needs in terms of assistance in behavior management training and socialization, charting, parent involvement, and

paperwork. They also needed assistance with the more severely involved students and assistance in the use and administration of the KIDS Inventory.

Student Instructional History

7. Analysis of instructional data (N=53) showed that the category of cognitive/language was the students' greatest area of development delay, followed by fine motor and gross motor development.

8. Students were assigned an average of 8.3 Mini Activity Plans (MAPs) per area of delay with the number assigned across all areas ranging from 1 to 32 MAPs assigned. All students completed one or more MAPs across all areas with individual completion rates per area ranging from 0 to 100 percent.

Participant Reaction

9. The majority of the Outreach teachers indicated favorable reactions to technical assistance in model implementation provided by project staff. Overall reactions to staff development and the program activities were generally positive.

Demonstration/Dissemination

10. The project continued its dissemination of packages in the areas of staff development, appraisal, curriculum, parent involvement and evaluation. A total of 247 dissemination packages was sold (at cost) to agencies and personnel in 24 states. Other activities included site visits and presentations at professional conferences.

Interpretaton. Results showed that the KIDS model was basically implemented as anticipated, but there were difficulties reported by teachers in terms of implementing the parenting component and KIDS curriculum/appraisal materials. Mid-year classroom visits also suggested a need for better communication with project teachers about the KIDS model.

Many of the implementation difficulties were likely due to the extensive replication of the KIDS model in the DISD. In effect, the KIDS model became the curriculum for the District's special education early childhood classrooms. While this was philosophically defensible, such wide replication tended to burden Outreach resources.

A second factor affecting Outreach implementation was the District's policy regarding staff development. Since teachers were restricted to their home campus for staff development sessions, it was almost impossible for project management to conduct the necessary orientation and training.

The population of students served in Outreach was as expected, and instruction received by students also was as expected. There was also evidence of student progress in terms of teacher report of instructional objectives having been completed, but there was no standard available for evaluating the merit of the reported progress.

Second Level Project KIDS Theoretical Control study (SP79-412-41-08)

Background. The purpose of this research study was essentially to attempt replication of a previous study (1976-77) undertaken to investigate the application of an expert panel in projecting posttest scores of children used as a control comparison in the evaluation of Project KIDS. The theoretical control strategy required a panel of experts in child development and early childhood education for the handicapped to project, independently, test score performance for children, based on an assumption of no treatment intervention. The average score projected by the panel then became the theoretical control score used in comparisons with actual test scores of children.

Results of the previous study showed that a theoretical control approach was feasible and yielded useful control data. This study (1977-78) was undertaken to secure control data for a larger sample of Project KIDS children and a second panel of experts. It was expected that this study would provide further data relative to the validity of the initial theoretical control study and also would provide data for product evaluation of the project.

Results. Student progress data were collected with pre-post administrations of two developmental scales. Comparison of these scores with post-observation by a panel of experts resulted in the following:

1. Reliability estimates of projected scores were generally acceptable (.85 or higher).

2. A comparison between scores projected by the panel of experts from the previous study with those projected by the current panel of experts revealed no significant differences between projected scores of the panel of experts for either scale of the Bayley. The correlation coefficients for projected scores between panels were .96 on the mental scale and .92 on the motor scale.

3. Comparison of theoretical control scores to actual Bayley posttest scores showed statistically significant differences (.10 level) on both scales for a subsample of the home-center-based children, replicating the results from the previous study. However, results of a comparison between projected and actual scores on a similar sample of children who participated in Project KIDS the succeeding year (i.e., the current study), resulted in no differences (.10 level). It would appear, at first, that the project was ineffective. Scores from the KIDS Inventory tended to contradict this conclusion, however, by suggesting that program effectiveness may not have been as pronounced as during the first year. The following schematic represents the comparison between control scores and treatment scores for both studies:

	Bayley Scales	KIDS Inventory
1976-77 Study	Control Scores < Actual Scores	(Not observed)
1976-77 Study	Control Scores = Actual Scores	Control Scores < Actual Scores

In the case of the Project KIDS evaluation, the differences between the control and treatment scores were significantly different (.05 level) for three of the four scales. Both the home- and center-based sample and the school-based students progressed significantly beyond the panel's expectations in the areas of gross motor, cognitive-language, and self-care. Significant gains for school-based students were in the areas of gross motor, fine motor, and cognitive-language.

Interpretation. Findings from a previous study which indicated that the theoretical control strategy yielded useful control data appear to have been replicated in the current study. The reliability of projected KIDS Inventory scores remained consistently high for the current study with 85% of the coefficients, computed for the subsamples, at .85 or higher. This again substantiates the findings of the previous study in which the reliability coefficients were at .87 or higher. Conflicting results from the comparison of projected and actual scores on the Bayley and KIDS Inventory for 12 home-center-based children suggest that either program effectiveness has decreased or that the scores from the KIDS Inventory, to which project curriculum is inextricably tied, is a more appropriate measure of student progress than is the Bayley. Significant differences between projected and actual KIDS scores for 15 school-based children tend to support the latter conclusion.

Summary and Conclusions

This report discussed the results of the seventh year of research and evaluation efforts in the area of special education. As in the past, research and evaluation personnel worked closely with special education managers to provide information which would be most useful in attempts to improve all aspects of the District's special education program.

1. The computerized data base made significant gains in information storage and retrieval and was able to provide periodic and ad hoc reports with a minimum of delay. There is some evidence to suggest that the data base is a cost-effective means for producing special education statistical reports.

2. The special education program served 10,238 students during the 1978-79 school year which represents an increase of 2,000 students over a period from 1975 to 1979. While this total number (7% of total student population) may be appropriate for a District the size of Dallas, it was noted that the percent of students served in the East Oak Cliff Subdistrict (4.8%) was well below the expected proportion.

3. The ethnic composition of the special education population was 39.9% White, 46.2% Black, 13.2% Hispanic, and 0.8% Other. These figures were within plus or minus 5% of the total District population.

4. The District's child find system received approximately 187 referrals, primarily from parents, DISD personnel, and agencies. There was a trend toward increased referral of preschool age children. Placement was established for 61% of the referrals, and the average time from referral to placement was 15.7 weeks. This was an increase over the 8, 10, and 13 weeks required in the respective previous three years of child find.

5. The Structured Environment for Emotionally Disturbed (SEED) project served 53 elementary and secondary students. The project had many problems in implementation, but there was some evidence that the project model may have been effective in promoting school-appropriate behaviors for some children.

6. The context study of programming for the severely and profoundly handicapped in the District found that appropriate educational programs were provided for 134 students and that some students showed developmental progress.

7. The Multiple Careers Magnet Center (MCMC) served 64 special education students. These were primarily moderately retarded students. While the Individual Education Program for each student was appropriate, it was apparent that some of the MCMC students did not receive sufficient academic instruction, due to scheduling limitations in their home schools. There was evidence of instructional progress at the MCMC, and parents and students reacted favorably to the MCMC.

8. The Assessment Center at William B. Carrell provided vocational assessment for 120 special education students. Like the MCMC, the population was primarily moderately retarded and was thus not representative of the handicapping conditions of the total District special education population.

9. Project KIDS and KIDS Outreach served a total of 380 handicapped infants, toddlers, and early childhood students. While Outreach experienced implementation difficulties, teachers and parents reacted favorably to the KIDS model. Students in the KIDS project made significant progress as measured by standardized tests and parental judgment. Reaction of parents and teachers was very favorable.

10. Application of a theoretical control strategy in product evalution of Project KIDS found that students performed significantly better than the control comparison. The theoretical control strategy was found to be reliable and probably valid.

An Interpretative Analysis of 1978-79 Special School Evaluation Results

Stephen W. Hebbler

The Dallas Independent School District's special or "Magnet" schools are schools with special curricula and/or approaches to the educational process. The schools were given the generic name "Magnet Schools" because they were designed to attract students from all geographic areas of the city. This report discusses four types of magnet schools: Vanguards, Academies, Magnet High Schools, and the Career Development Center.

During the 1978-79 school year there were five grade 4-6 magnet centers. The grade 4-6 centers are called Vanguard Schools and include: Amelia Earhart (Montessori), Maynard H. Jackson (Individually Guided Education), Sidney Lanier (Expressive Arts), K. B. Polk (Talented and Gifted) and Mark Twain (Fundamental Education). K. B. Polk operates as a school within a school; that is, in addition to the Vanguard school, the center houses a traditional kindergarten through grade six elementary school. At the other Vanguard schools, all grade 4-6 students are enrolled in the Vanguard program.

The name Academy Schools was given to the grade 7-8 magnet centers which include: Pearl C. Anderson (Career Exploration), William Hawley Atwell (Fundamental), W. E. Greiner (Exploratory Arts), Oliver Wendell Holmes (Classical), Alex W. Spence (Talented and Gifted), and Sequoyah (Environmental Science). The Greiner Exploratory Arts Academy was added to the Academy program during the 1978-79 school year. Facilities at Holmes and Spence house both traditional and Academy programs. The four remaining grade 7-8 centers contain only Academy programs.

Six senior magnet schools were in operation during the 1978-79 school year. These schools are: Arts Magnet High School at Booker T. Washington (AMHS), Business-Management Center (BMC), High School for the Health Professions (HSHP), Human Services Center (HSC), Magnet Center for Public Services: Government and Law (MCPS), and the Transportation Institute (TI). The Human Services Center and the Magnet Center for Public Services: Government and Law were added to the magnet school system during the 1977-78 school year and enrolled only part-time students. The other four senior magnets were established during the 1976-77 school year and served both part-time and full-time students.

The remaining special school discussed in this report is the Skyline Career Development Center (CDC). The CDC, which has served the career education needs of Dallas students since the 1971-72 school year, offers training in 25 career clusters. In some sections of this report the CDC data will be included with the Magnet High Schools.

Characteristics of the Student Population

Table 1 presents the ethnic characteristics of students enrolled in the magnet school program for the 1977-78 and 1978-79 school years. The table also contains a set of columns to facilitate the study of enrollment trends. Examination of the 1978-79 enrollment data shows that few Hispanic and White students participated in the Jackson Individually Guided Education Vanguard Program. The percentages of Black students at Sidney Lanier Expressive Arts Vanguard and Greiner Exploratory Arts Academy and Hispanic students at Mark Twain Fundamental Vanguard were

Table 1

Student Enrollment in DISD Magnet Schools by Ethnicity and Year

Magnet School	Fall 1977-78							Fall 1978-79							Changes From 1977-78 To 1978-79						
	Black		Hispanic		White		Total[a]	Black		Hispanic		White		Total[a]	Black		Hispanic		White		Total[a]
	N	%	N	%	N	%	N	N	%	N	%	N	%	N	N	%	N	%	N	%	N
VANGUARD SCHOOLS																					
Earhart	102	60.0	43	25.3	25	14.7	170	91	47.4	50	26.0	51	26.6	192	-11	-12.6	+7	+0.7	+26	+11.9	+22
Jackson	627	97.5	7	1.1	8	1.2	643[a]	592	97.7	5	0.8	9	1.5	606	-35	+0.2	-2	-0.3	+1	+0.3	-37
Lanier	77	18.6	248	59.9	80	19.3	414[a]	80	15.2	316	60.1	120	22.8	526[a]	+3	-3.4	+68	+0.2	+40	+3.5	+112
Polk	41	32.3	5	3.9	79	62.2	127[a]	30	25.0	7	5.8	81	67.5	120[a]	-11	-7.3	+2	+1.9	+2	+5.3	-7
Travis	249	64.8	15	3.9	116	30.2	384[a]	268	72.6	10	2.7	87	23.6	369	+19	+7.8	-5	-1.2	-29	-6.6	-15
Vanguard Total	1096	63.1	318	18.3	308	17.7	1738	1061	58.5	388	21.4	348	19.2	1813[a]	-35	-4.6	+70	+3.1	+40	+1.5	+75
ACADEMY SCHOOLS																					
Anderson	231	63.8	26	7.2	104	28.7	362	191	54.7	23	6.6	134	38.4	349	-40	-9.1	-3	-0.6	+30	+9.7	-13
Atwell	346	52.9	74	11.3	232	35.5	654	377	54.8	86	12.5	219	31.8	688	+31	+1.9	+12	+1.2	-13	-3.7	+34
Holmes	176	75.9	5	2.2	50	21.6	232	158	63.5	14	5.6	73	29.3	249	-18	-12.4	+9	+3.4	+23	+7.7	+17
Sequoyah	92	54.8	14	8.3	62	36.9	168	80	47.6	17	10.1	70	41.7	168	-12	-7.2	+3	+1.8	+8	+4.8	0
Spence	19	33.3	7	12.3	30	52.6	57	26	22.0	15	12.7	75	63.6	118	+7	-11.3	+8	+0.4	+45	+11.0	+61
Academy Subtotal	864	58.7	126	8.6	478	32.5	1473	832	52.9	155	9.9	571	36.3	1572	-32	-5.8	+29	+1.3	+93	+3.8	+99
Greiner[c]	-	-	-	-	-	-	-	164	14.0	573	49.1	408	34.9	1168	-	-	-	-	-	-	-
Academy Total	864	58.7	126	8.6	478	32.5	1473	996	36.4	728	26.6	979	35.7	2740	+132	N/A	+602	N/A	+501	N/A	+1267
SENIOR MAGNET SCHOOLS																					
Arts	353	50.4	46	6.6	291	41.5	701	327	47.5	60	8.7	298	43.3	688	-26	-2.9	+14	+2.1	+7	+1.8	-13
Business	923	63.7	167	13.3	150	12.0	1251	951	75.9	182	14.5	117	9.3	1253	-28	+2.1	+15	+1.2	-33	-2.7	+2
Health	527	63.6	70	8.5	221	26.7	828	523	65.5	70	8.8	194	24.3	799	-4	+1.9	0	+0.3	-27	-2.4	-29
Human Services	57	55.7	13	12.3	33	31.1	106	59	42.4	12	8.6	68	48.9	139	0	-13.3	-1	-3.7	+35	+17.8	+33
Public Services	92	44.4	42	20.3	72	34.8	207	86	36.8	51	21.8	97	41.5	234	-6	-7.6	+9	+1.5	+25	+6.7	+27
Transportation Institute	281	54.1	104	20.0	130	25.0	519	319	57.9	101	18.3	130	23.6	551	+38	+3.8	-3	-1.7	0	-1.4	+32
Senior Magnet Sub Total	2235	61.9	442	12.2	897	24.8	3612	2265	69.6	476	14.6	842	25.9	3664	+30	+7.7	+34	-2.4	-55	+1.1	+52
Skyline CDC	833	35.9	226	9.7	1229	53.0	2320	982	40.1	264	10.8	1165	47.6	2447	+149	+4.2	+38	+1.1	-64	-5.4	+127
Senior Magnet Total	3068	51.7	668	11.3	2126	35.8	5932	3247	53.1	740	12.1	2007	32.8	6111	+179	+1.4	+72	+0.8	-119	-3.0	+179
GRAND TOTAL	5028	55.0	1112	12.2	2912	31.8	9143	5512	58.9	1216	13.0	2911	31.1	10,664	+404	N/A	+104	N/A	-1	N/A	+1521

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[a] Totals may include students classified as Asian, American Indian, and "other." Therefore, the number of Black, Hispanic, and White students may not sum to the Total N and the percentages of Black, Hispanic, and White students may not sum to 100.

lower than at other magnet schools.[1] Also, the percentage of White students at the Business Management Center was lower than the District-wide percentages.

Enrollment trends from 1977-78 to 1978-79 in the Vanguard schools revealed favorable changes in ethnic composition. Black Vanguard enrollment dropped five percentage points while the percentage of Hispanic and White students increased 3% and 2%, respectively. The 1978-79 ethnic composition at the Vanguarads was 56% Black, 21% Hispanic, and 19% White.

Changes in the ethnic composition at the Academy schools were also favorable and can be attributed to two distinct causes. First, the percentages of Black, White, and Hispanic students in the five Academies which were in operation during both 1977-78 and 1978-79 changed during those two years. The percentage of Black students dropped six points while the percentage of Hispanic and White students increased 1% and 4%, respectively. As a result, the 1978-79 ethnic composition in those schools was 53% Black, 10% Hispanic, and 36% White. The second major reason for changes in the ethnic composition of the Academy program was the addition of the Greiner Exploratory Arts Academy during 1978-79. The ethnic composition of that school was 14% Black, 49% Hispanic, and 35%

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[1] The enrollment figures in Table 1 represent the total number of Black, Hispanic, and White students enrolled in a particular magnet school. In Vanguard and Academy schools ethnic percentage requirements apply only to students attending on a voluntary basis from outside the school's normal attendance zone. Therefore, it is expected for a Vanguard and Academy school program to reflect the ethnic composition of the neighborhood in which the school is located.

White. With the Greiner students included, the ethnic composition of the total Academy program during 1978-79 was 36% Black, 27% Hispanic, and 36% White.

The overall ethnic composition of the Senior Magnet program from 1977-78 to 1978-79 was more stable than that of the Vanguards or the Academies. The most notable change was a decrease of 3% in White student enrollment. The enrollment figures for 1978-79 were 53% Black, 12% Hispanic, and 33% White.

In analyzing the home school attendance zones of students at the Magnet High Schools (Table 2) it was observed that an exceptionally large percentage of students who attended these schools (including the Skyline CDC) lived within a small number of high school attendance areas. South Oak Cliff (SOC) High School had a very high representation in all the Magnet High Schools except the Human Services Center and the Magnet Center for Public Services. Of the 6,206 students attending senior magnet schools during 1978-79, 1,350 (22%) lived in the SOC attendance zone. Other attendance zones with exceptionally large representations at particular magnets included Spruce (17% of the Human Services Center enrollment), Skyline (16% of CDC), and Roosevelt (13% of the Business Management Center). Of the regular DISD high school attendance zones (not alternative or metropolitan high schools) only Seagoville had a uniformly small representation in the senior magnets. A total of 17 students from that zone attended 5 different magnets; there were no Seagoville students at the Human Services Center or the Magnet Center for Public Services.

Table 2

Students Attending Magnet High Schools From Each DISD High School Attendance Zone During 1978-79

High School Attendance Zone	AMHS		BMC		CDC		HSC		HSHP		MCPS		TI	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Adams	48	7.0	15	1.2	219	8.9	11	7.9	28	3.5	25	10.7	8	1.5
Adamson	10	1.5	65	5.2	66	2.7	8	5.8	29	3.6	7	3.0	19	3.5
Carter	39	5.7	83	6.6	109	4.5	18	12.9	44	5.5	21	9.0	47	8.5
EOC Alternative	0	0.0	0	0.0	14	0.6	0	0.0	0	0.0	0	0.0	0	0.0
Hillcrest	33	4.8	17	1.4	72	2.9	2	1.4	11	1.4	5	2.1	4	0.7
Jefferson	59	8.6	58	4.6	105	4.3	4	2.9	32	4.0	17	7.3	32	5.8
Kimball	47	6.8	43	3.4	64	2.6	14	10.1	31	3.9	16	6.8	21	3.8
Lincoln	24	3.5	34	2.7	50	2.0	1	0.7	14	1.8	2	0.9	10	1.8
Madison	11	1.6	34	2.7	69	2.8	2	1.4	14	1.8	3	1.3	12	2.2
Metropolitan (all campuses)	2	0.3	0	0.0	0	0.0	1	0.7	0	0.0	1	0.4	0	0.0
North Dallas	38	5.5	73	5.8	153	6.3	7	5.0	45	5.6	15	6.4	43	7.8
Pinkston	25	3.6	43	3.4	26	1.1	4	2.9	18	2.3	7	3.0	39	7.0
Roosevelt	38	5.5	168	13.4	132	5.4	7	5.0	92	11.5	9	3.8	53	9.6
Samuell	18	2.6	27	2.2	93	3.8	9	6.5	20	2.5	12	5.1	25	4.5
Seagoville	3	0.4	1	0.1	5	0.2	0	0.0	2	0.3	0	0.0	6	1.0
Skyline	22	3.2	52	4.2	401	16.4	6	4.3	48	6.0	20	8.5	3	0.5
Smith	8	1.2	15	1.2	0	0.0	2	1.4	10	1.3	8	3.4	9	1.6
South Oak Cliff	123	17.9	381	30.4	439	17.9	7	5.0	230	28.8	21	9.0	129	23.4
Spruce	21	3.1	67	5.4	185	7.6	24	17.3	60	7.5	17	7.3	37	6.7
Sunset	26	3.8	24	1.9	46	1.9	1	0.7	24	3.0	5	2.1	19	3.5
White	49	7.1	10	0.8	83	3.4	2	1.4	17	2.1	10	4.3	10	1.8
Wilson	30	4.4	43	3.4	116	4.7	9	6.5	29	3.6	13	5.6	24	4.4
Unknown	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.2
Tuition Students	14	2.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	688	-	1253	-	2447	-	139	-	799	-	234	-	551	-

The following points relative to the ethnic composition and home school atendance area of magnet school students would be useful considerations for program refinement:

1. Methods for improving the ethnic mix at the Business Management Center should be examined.

2. In the senior magnets programming efforts should be directed towards attracting students from all areas of the District. Thus, it is recommended that emphasis be placed upon strong academic components in all schools. Additionally, in the cluster areas, continued efforts should be made to develop curriculum alternatives for college-bound students.

3. It is recommended that a study be conducted to determine the reasons why the magnet school option was exceptionally popular at particular schools with students from South Oak Cliff.

Process Evaluation

Vanguards and Academies

Physical facilities. Observations made at the Vanguard and Academy school sites indicated that those facilities were generally satisfactory with no substantial physical changes from the 1977-78 school year.

Classroom observations. In both the Vanguard and Academy schools evaluators observed the instructional processes and recorded the percentages of students attending to the learning task. The data collected during these observations and at other times indicated that the special curriculum or instructional approach characteristic of each particular Vanguard or Academy school was, in fact, operational and impacting students. Some computer assisted instruction (CAI) was available at Polk, Twain, and Jackson Vanguards and at Anderson, Holmes, and Spence Academies. Student time-on-task data combining Fall 1978 and Spring 1979 data revealed that, on the average, 91% of the observed

Vanguard students and 82% of the observed Academy students were attending to the learning task.

Magnet High Schools

Physical facilities. The physical facilities at the Magnet High Schools remained largely unchanged from the 1977-78 school year. Overall, the facilities were judged to be satisfactory. Specific concerns regarding facilities were reported to appropriate school administrators during Fall 1978.

Classroom observations. Observations made in samples of Magnet High School classrooms revealed few discipline problems and a large percentage of students attending to the learning task. The observation data indicated an overall improvement in student discipline and on-task behavior from the previous year. In general, when observations were made both in Fall 1978 and in Spring 1979, the spring results were slightly more positive. The predominant instructional activities in cluster classrooms involved career-oriented application or hands-on activities while academic classrooms (in schools offering an academic program) were characterized by lecture and group discussion formats.

Skyline CDC

Physical facilities. Instructional facilities provided at the CDC remained unchanged during the 1978-79 school year and were generally rated as excellent.

Classroom observations. Observations conducted in a sample of cluster and ninth-grade CDC classrooms revealed very few instances of poor student behavior. The average percentage of students attending to the learning task was 92% in ninth-grade CDC classrooms and 94% in the clusters. Lectures, discussions, media presentations, and bookwork (all related to cluster skills) predominated in ninth-grade classrooms while cluster classes were characterized by career-related hands-on training. Overall, the observations indicated that the ninth-grade CDC program was better organized and operating more smoothly during 1978-79, its second year of implementation.

Academic Achievement

Vanguards

Iowa Tests of Basic Skills. As part of the DISD system-wide testing program, students at the Vanguard schools were administered the ITBS during Spring 1978 and Spring 1979. Data from those administrations of the tests are presented in Table 3. Group gains in grade equivalents exhibited a moderate amount of variance from school to school but were very stable across grades. The overall average Vanguard gain was approximately 1.0 grade equivalent over one year at each grade level. Grade equivalent gain scores were considerably higher than 1.0 at all grades at Polk and Twain and at grades 5 and 6 at Earhart. Also, actual grade equivalent scores on the posttest were well above grade level at Polk, at or slightly above grade level at Twain, and somewhat below grade level at the other Vanguards.

Basic Objectives Assessment Test. The BOAT was administered to sixth-grade Vanguard students during Winter 1978-79. Results of the

Table 3

Mean ITBS Grade Equivalent Pretest and
Posttest Composite Scores for
Vanguard Students

Grade/School	Pretest			Posttest			Group Gain in Mean Grade Equivalents ($M_{post}-M_{pre}$)
	N	M	SD	N	M	SD	
Grade 4							
Earhart	57	3.4	0.9	60	4.3	1.0	+0.9
Lanier	132	3.1	1.0	143	3.5	1.1	+0.4
Polk	29	5.1	0.5	32	6.5	0.7	+1.4
Twain	76	3.4	0.8	89	4.6	1.0	+1.2
Jackson	159	2.8	0.8	168	3.6	0.9	+0.8
All Vanguards	453	3.2	1.0	492	4.0	1.3	+0.8
Grade 5							
Earhart	56	4.0	1.1	56	5.2	1.4	+1.2
Lanier	131	3.5	1.1	141	4.4	1.4	+0.9
Polk	50	6.1	0.9	50	7.8	1.1	+1.7
Twain	92	4.2	1.1	107	5.9	1.5	+1.7
Jackson	137	3.7	1.0	159	4.3	1.1	+0.6
All Vanguards	466	4.0	1.3	513	5.1	1.7	+1.1
Grade 6							
Earhart	53	4.5	1.4	54	5.9	1.7	+1.4
Lanier	121	3.9	1.3	131	4.9	1.6	+1.0
Polk	29	7.4	0.8	29	8.7	1.5	+1.3
Twain	88	4.8	1.4	94	6.5	1.6	+1.7
Jackson	158	4.3	1.3	168	5.2	1.6	+0.9
All Vanguards	449	4.5	1.5	476	5.7	1.8	+1.2

Note: Pretests were administered during Spring 1978; posttests during Spring 1979.

testing (Table 4) indicated that wide variance existed among students at different Vanguard schools on the variables measured by the test. Overall, the percentage of Vanguard students answering 50% or more of the BOAT items correctly was similar to the percentage of sixth-grade students District-wide (84% and 85%, respectively). At the 70% accuracy level, Vanguard students scored somewhat below the District as a whole (44% and 61%, respectively).

Table 4

Number and Percentage of Sixth-Grade Vanguard Students Scoring 50% or Above and 70% or Above on the BOAT

School	N Tested	50% or More Correct		70% or More Correct	
		N	%	N	%
Earhart	54	45	83.3	30	55.6
Lanier	134	107	79.9	46	34.3
Polk	28	28	100.0	28	100.0
Twain	94	93	98.9	44	46.8
Jackson	165	124	75.2	61	37.0
All Vanguards	475	397	83.6	209	44.0
DISD (Grade 6)	9107	-	85	-	61

Additional comparisons. Students who were transported from their neighborhood school to a Vanguard were matched and compared to students who remained at the neighborhood school. Comparison of the two groups showed that the mean gain scores on the ITBS for the Vanguard students were slightly higher than those of the comparison group. However, the differences were not statistically significant. Similar results were obtained on the comparison of the BOAT scores. These results should reflect favorably on the Vanguard program, for they suggest that desegregation students fared at least as well on achievement tests as did their peers who remained in a non-Vanguard school. In addition, the Vanguard students were enriched by the special offerings and experiences associated with the Vanguard.

Academies

Iowa Tests of Basic Skills. Academy students were administered the Reading and Mathematics subtests of the ITBS in Fall 1978 and the entire ITBS achievement test in Spring 1979. Results from these tests are presented in Table 5. A substantial amount of variability in gain from school to school was observed while differences in gain between seventh and eighth grade students at each school were much smaller. Substantial gains in both reading and mathematics were achieved by seventh and eighth graders at Holmes, while Anderson and Spence exhibited sizeable gains in mathematics at both grade levels. At Sequoyah, substantial gains in mathematics were realized by eighth-grade students. Overall, the posttest grade equivalent scores on both subtests could be characterized as well above grade level at Spence, at grade level at Holmes, and somewhat below grade level at the other Academies.

Basic Objectives Assessment Test. Results of the BOAT, administered to eighth-grade Academy students in Winter 1978-79, are presented in Table 6. A wide disparity existed in the number of students passing the test at different Academy schools. A moderate amount of variability also existed between subtests with regard to the percentage of students scoring at least 70% correct.

Table 5

ITBS Grade Equivalent Scores by Grade and Academy, Fall 1978 and Spring 1979

	Fall, 1978					Spring, 1979					Six Month Group Gain	
		Reading		Mathematics			Reading		Mathematics			
Academy	N	Mean	S.D.	Mean	S.D.	N	Mean	S.D.	Mean	S.D.	Reading	Mathematics
Anderson[a]												
Grade 7	167	5.75	1.84	5.50	1.50	165	6.21	1.88	6.32	1.64	0.46	0.82
Grade 8	164	6.28	2.15	6.25	1.62	170	6.85	2.16	6.99	1.81	0.57	0.74
Atwell												
Grade 7	286	5.99	1.92	5.91	1.54	303	6.53	1.89	6.48	1.60	0.54	0.57
Grade 8	324	6.68	2.08	6.53	1.58	322	7.19	2.10	7.22	1.83	0.51	0.69
Greiner												
Grade 7	493	5.23	1.82	5.30	1.58	488	5.49	1.95	5.76	1.70	0.26	0.46
Grade 8	458	5.88	2.00	6.06	1.72	449	6.18	2.20	6.55	1.91	0.30	0.49
Holmes[a]												
Grade 7	119	7.72	1.29	7.07	1.24	121	8.36	1.36	7.77	1.23	0.64	0.70
Grade 8	113	7.92	1.79	7.48	1.61	113	8.59	1.57	8.33	1.59	0.67	0.85
Sequoyah												
Grade 7	70	5.56	2.17	5.69	1.41	72	6.08	2.12	6.18	1.68	0.52	0.49
Grade 8	82	6.57	2.08	6.62	1.67	86	7.06	2.27	7.40	2.14	0.49	0.78
Spence[a]												
Grade 7	61	9.02	1.15	8.59	1.19	58	9.54	1.19	9.30	1.31	0.52	0.71
Grade 8	50	10.05	1.43	9.24	1.58	55	10.43	1.34	9.92	1.44	0.38	0.68

[a] Utilized computer-assisted instruction.

Additional comparisons. In order to investigate differences in academic gains between Academy students and students in regular middle schools, Academy students were matched to two control groups. Analysis of the data showed that differences in gains made by the three groups (Academy and two control groups) were not statistically different. Therefore, it is reasonable to assume that academic progress in the Academy schools, as measured by the ITBS, was not different from the academic progress made by students in non-Academy middle schools.

Magnet High Schools and CDC

Iowa Tests of Educational Development. Magnet High School and CDC students were administered the ITED in Spring 1979 as part of the DISD system-wide testing program. Table 7 summarizes the data by grade level and subtest and shows that a large variance in average percentile existed from school to school on each of the ITED subtests and composite scores. Only a small amount of score variance was found across grade levels and across subtests within each magnet school. Generally, scores were at or above average (large-city norms) at the Arts Magnet High School, the CDC, and the Magnet Center for Public Services, somewhat below average at the Human Services Center and the High School for the Health Professions, and well below average at both the Business Management Center and the Transportation Institute.

Composite percentiles for part-time and full-time students on the ITED are compared in Table 8. Since no substantial differences were noted at any of the Magnet High Schools it can be inferred that the quality of the academic program in the Magnet High Schools was similar to that in the traditional high school.

Table 6

Percentage of Eighth Grade Academy Students Passing the BOAT by Subtest and Academy[a]

Academy	N[b]	Consumerism	Community	Medical	Home	Employment	Government	Information Sources	Total
Anderson	171	42.7	53.8	67.3	36.8	46.5	32.9	38.0	38.0
Atwell	338	55.6	64.2	77.6	42.9	51.8	42.5	50.0	49.4
Greiner	481	47.6	50.1	61.9	34.5	40.1	24.5	32.9	32.8
Holmes	113	84.1	89.4	92.9	71.7	79.6	59.3	68.1	78.8
Sequoyah	81	64.2	56.8	70.8	46.9	63.8	40.7	45.7	49.4
Spence	53	94.3	98.1	98.1	98.1	94.2	84.9	90.6	100.0

[a] A passing score on the Basic Objectives Assessment Test (BOAT) means that a student achieved a score of at least 70% correct on the total test. For descriptive purposes, this table also includes the percentage of students who scored at least 70% on each subtest.

[b] N indicates the number of students tested at each school.

Table 7

Magnet High School and District-wide Percentiles (Large-city Norms) on the Iowa Tests of Educational Development, Spring 1979

Grade Level/ ITED Subtest	Magnet School														District-wide[b]	
	AMHS		BMC		CDC		HSC		HSHP		MCPS		TI			
	N[a]	%ile	N	%ile	N	%ile	N	%ile	N	%ile	N	%ile	N	%ile	N	%ile
NINTH GRADE																
Reading Composite	168	58	296	24	703	59	44	40	221	42	78	59	151	19	9392	39
Language Composite	163	53	287	36	712	59	42	49	221	47	78	55	146	18	9227	36
Mathematics	171	50	297	35	723	60	44	45	222	44	77	52	152	36	9463	45
Social Studies	174	47	307	26	738	51	46	38	224	43	78	56	156	23	9746	35
Science	174	48	308	22	738	54	46	33	224	39	78	59	154	20	9772	32
Use of Sources	169	51	300	33	723	57	43	48	222	45	77	53	150	32	9437	38
Total Composite[c]	160	51	276	28	693	58	40	40	218	42	77	54	141	22	8920	36
TENTH GRADE																
Reading Composite	155	65	267	32	655	62	44	50	208	45	46	62	117	22	8239	48
Language Composite	154	58	261	43	663	58	44	52	208	44	47	55	115	11	8156	42
Mathematics	154	63	265	35	679	64	45	46	208	43	47	55	116	37	8279	51
Social Studies	161	52	272	28	693	52	45	43	210	40	48	57	118	20	8496	40
Science	161	58	272	25	694	58	45	44	211	41	48	56	118	26	8514	41
Use of Sources	155	63	264	43	674	61	45	59	205	47	47	67	116	27	8239	47
Total Composite	149	63	257	33	643	62	44	47	204	42	46	58	113	18	7915	44
ELEVENTH GRADE																
Reading Composite	147	55	210	33	380	56	17	34	144	45	23	50	78	24	6929	46
Language Composite	148	42	208	40	386	52	17	33	140	45	23	42	78	18	6881	41
Mathematics	139	51	209	37	390	62	17	30	144	50	23	51	76	35	6948	53
Social Studies	151	46	216	32	403	48	17	37	147	40	24	51	78	31	7166	41
Science	151	50	216	28	403	55	17	28	147	44	24	43	78	33	7170	45
Use of Sources	143	56	203	43	388	60	17	42	138	57	23	52	76	31	6920	50
Total Composite	136	47	199	34	372	56	17	28	138	45	22	46	76	21	6660	45

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[a] N denotes the number of students for which valid subtest scores were on file.

[b] All DISD students in grades 9 through 12 with valid ITED scores.

[c] Total Composite is a standard score based on the Reading Composite, Language Composite and Mathematics subtests.

Table 8

Comparison of Student Performance on the ITED Composite by School and Attendance Status

Grade/School	Part-Time N	Part-Time %ile	Full-Time N	Full-Time %ile	School Composite N	School Composite %ile
NINTH GRADE						
Arts	42	43	118	54	160	51
Business	106	25	170	29	276	28
Health	78	38	140	44	218	42
Human Services	40	40	-	-	40	40
Public Services	77	54	-	-	77	54
Transportation	73	19	68	18	141	22
Skyline CDC	147	45	546	61	693	58
All DISD Students	-	-	-	-	8920	36
TENTH GRADE						
Arts	29	59	120	64	149	63
Business	78	39	179	30	257	33
Health	67	46	137	40	204	42
Human Services	44	47	-	-	44	47
Public Services	46	58	-	-	46	58
Transportation	60	19	53	17	113	18
Skyline CDC	163	50	480	66	643	62
All DISD Students	-	-	-	-	7915	44
ELEVENTH GRADE						
Arts	24	48	112	47	136	47
Business	74	37	125	32	199	34
Health	40	42	98	47	138	45
Human Services	17	28	-	-	17	28
Public Services	22	46	-	-	22	46
Transportation	31	22	45	21	76	21
Skyline CDC	91	46	281	59	372	56
All DISD Students	-	-	-	-	6660	45

Note. The Human Services and Public Services magnets did not enroll students on a full-time basis.

Basic Objectives Assessment Test. The BOAT was administered to Magnet High School students during Spring 1979. The test results, broken down by part-time/full-time status and including scores for high school students District-wide, are presented in Table 9. Overall, the scores of Magnet High School students at each grade level were somewhat higher than those of other high school students in DISD. However, there was a wide variance among students' scores from different magnet schools. No substantial differences in achievement on the BOAT were noted between students attending magnet schools on a full-time basis and those attending part-time.

Curriculum-Referenced Tests

Test Construction and Administration

At the Magnet High Schools, one of the objectives of the evaluation was to develop and/or purchase and, ultimately, to administer tests which could be used to measure students' progress relative to the curricular objectives in each cluster area. The progress made in the development of tests varied greatly between schools. The variability resulted primarily from the stability of the curriculum, measurement problems, and time constraints placed upon the evaluators. Table 10 presents a summary of the results of the test construction and administration efforts.

Results of Curriculum-Referenced Testing

Inventory of Accounting Principles. Business Management Center students tested in Spring 1979 scored higher on the total test (Mean = 67.7% correct) than did students tested in Spring 1978 (Mean = 57.0% correct). Mean scores on the separate theory and applications sections were also higher for students tested in 1979 than in 1978.

Table 9

Number and Percentage of Students Passing the Basic Objectives Assessment Test (BOAT) by School, Grade, and Attendance Status

School	Part-time Number Tested	Part-time % Passing	Full-time Number Tested	Full-time % Passing	School Composite Number Tested	School Composite % Passing
NINTH GRADE						
Arts	57	66.7	130	66.9	187	66.8
Business	129	52.7	191	59.7	320	56.9
Health	89	57.3	138	72.5	227	66.5
Human Services	46	63.0	-	-	46	63.0
Public Services	81	84.0	-	-	81	84.0
Transportation	94	41.5	68	26.5	162	35.2
Skyline CDC	165	72.1	547	77.3	712	76.1
All Magnets	-	-	-	-	1735	66.5
District-wide	-	-	-	-	9641	51.8
TENTH GRADE						
Arts	33	87.9	131	80.9	164	82.3
Business	90	75.6	189	75.1	278	75.5
Health	76	85.5	140	69.3	216	75.0
Human Services	47	83.0	-	-	47	83.0
Public Services	54	83.3	-	-	54	83.3
Transportation	72	51.4	54	53.1	126	52.1
Skyline CDC	190	80.1	519	80.0	709	80.0
All Magnets	-	-	-	-	1594	76.8
District-wide	-	-	-	-	8716	65.7
ELEVENTH GRADE						
Arts	27	77.8	128	85.2	155	83.9
Business	84	76.2	148	79.7	232	73.3
Health	51	86.3	107	88.8	158	87.9
Human Services	21	71.4	-	-	21	71.4
Public Services	27	92.6	-	-	27	92.6
Transportation	40	65.0	52	73.1	92	69.6
Skyline CDC	107	83.2	292	85.6	399	85.0
All Magnets	-	-	-	-	1084	81.4
District-wide	-	-	-	-	7535	73.0
TWELFTH GRADE						
Arts	19	84.2	64	89.1	83	88.0
Business	80	73.8	127	85.0	207	80.7
Health	19	84.2	92	88.0	111	87.3
Human Services	6	66.7	-	-	6	66.7
Public Services	20	90.0	-	-	20	90.0
Transportation	10	70.0	41	51.2	51	54.9
Skyline CDC	68	82.4	296	85.1	364	84.6
All Magnets	-	-	-	-	842	82.5
District-wide	-	-	-	-	6719	79.1

Table 10

Summary of Curriculum Referenced Test Development and Administration

chool	Name of Test	Type of Test	Administration
MC	Inventory of Accounting Principles	Locally developed (1977-78) test on accounting theory; 65 items, 2 parts	First-year accounting students (N=64) took the test in Spring 1979.
	Stenographic Skills Test	Locally developed (1977-78) and revised (1978-79) test of shorthand theory and dictation skills; 3 parts	Tests were administered in May, 1979 to 58 beginning Greg students, 3 advanced Gregg students, and 10 machine shorthand students.
	Typewriting, Inventory--Form A	Locally developed (1977-78) 30-item theory examination	All one-hour typing students (N=166) took th test in Spring 1979.
	Every Pupil Achievement Exam--Typewriting I	Norm-referenced performance exam; 4 timed exercises	A student sample comprised of 78 typing students was tested during Spring 1979.
	General Clerical Laboratory Examination (Modules 1-3)	Locally developed (1978-79); 2 parts: Knowledge (50 items) and Application (39 items).	Test was administered t 189 General Clerical Laboratory students in Spring 1979.
DC	General Electrical, Airframe and Power Plant	Locally developed (1976-77) tests paralleling FAA aeronautics licensing exams.	Appropriate tests were administered to seniors in the Aeronautics cluster (N=14) during Spring 1979.

Table 10 (Cont'd.)

School	Name of Test	Type of Test	Administration
HSC	World Cultures Curriculum Test	Locally developed (1977-78 and 1978-79) test based on four modules from the World Cultures course at HSC.	Test was administered to 39 HSC ninth grade students in May 1979.
	Introduction to Human Services Test	Locally developed (1978-79) 46-item test covering 11 modules in the HSC ninth-grade curriculum.	Administered to 40 HSC ninth-grade students in May 1979.
HSHP	Medical Laboratory I Evaluation Instrument	Locally developed (1977-78) and revised (1978-79) test containing 84 items covering 15 areas.	Administered to 154 HSHP students in May 1979.
	Health Careers Exploration Evaluation Instrument	Locally developed (1977-78) 51-item test covering the Health Careers Exploration curriculum.	Test was administered on a pre/post basis (Fall 1978 and Spring 1979). A total of 203 students was used in the analysis.
	Nelson Bilogy Test	Standardized norm-referenced high school level test in general biology containing 65 items.	The test was administered to 71 HSHP students.
MCPS	World Cultures Curriculum Test	Locally developed (1977-78 and 1978-79) test based on 4 modules from the World Cultures course at MCPS.	The test was administered to 70 MCPS ninth-grade students in May 1979.

Table 10 (Cont'd.)

School	Name of Test	Type of Test	Administration
TI	Automotive Tune-up Learning Survey	A revised section of the Comprehensive Examination in Automotive Mechanics. That test was developed by the University of the State of New York. The revision used at TI contained 46 items.	Revised instrument was administered to 16 students in the TI tune-up class during Spring 1979.
	Two Cycle-Four Cycle Learning Survey	Locally developed (1977-78) 50-item test keyed to the Ken Cook small engine program. The test uses a multiple choice answer format and is administered verbally using color slides and visual aids as presentation media.	The test was administered to 48 students from four small engine classes in Spring 1979.

Stenographic Skills Test (SST). Mean scores of beginning and advanced shorthand students at the Business Management Center were within an acceptable range of accuracy (70% - 100%) on Part 1, Knowledge of Shorthand Theory, of the SST. Examination of student performance on Part II, Three-Minute Dictation at 60 WPM, and Part III, Three-Minute Dictation at 80 WPM, revealed the percentage accuracy of dictation/transcription decreased as length of dictation and speed of dictation increased. Though the level of proficiency evidenced by the SST results was below that generally required in the world of work, it was encouraging to note that 1978-79 scores were generally higher than 1977-78 scores.

Typewriting Inventory--Form A. Business Management Center students who took the typewriting theory test in 1978-79 scored higher (Mean = 71.9% correct) than did students in 1977-78 (Mean = 64.0%).

Every Pupil Achievement Test--Typewriting I. Students' scores on the performance test were higher during 1978-79 (Mean = 59.6% of the items correct) than during 1977-78 (53.3%) or 1976-77 (40.4%).

General Clerical Laboratory Examination (Modules 1-3). General Clerical Laboratory students at the Business Management Center earned slightly higher mean scores on the basic knowledge portion of the test (66.6% correct) than they did on the application portion (61.8%). The mean for the total test was 64.5% correct. Notably, students earned lower mean scores on test areas which addressed office filing than on other areas of the test.

Aeronautics Cluster Tests. Preliminary investigations indicated a correlation between students' scores on the CDC aeronautics tests and their performance on the actual FAA examinations (for students tested in 1977 and 1978). Students scoring at least 70% on the CDC tests generally had no difficulty passing the FAA licensing exams which they took during the summer after graduation. While approximately half of the students tested in Spring 1979 reached 70% correct on the combined General and Electrical tests, as did half of those taking the Powerplant test, almost all of the students taking the Airframe test scored 70% or above.

World Cultures Curriculum Test (at Human Services Center). Results indicated that average student performance was strongest for Module I, Discovering You (65.5% correct), and weakest on Module 3, The American Experience (18.3%).

Introduction to Human Services Course Test. The average number of items answered correctly by Human Services Center students was 30.4 (18.3% correct).

Health Careers Exploration Evaluation Instrument. The analysis of pre- to posttest gain is presented in Table 11. The mean posttest score was significantly greater than the mean pretest score. Although the gain of approximately five additional correct items was statistically

Table 11

Analysis of Pre- to Posttest Gains Observed On
the Health Careers Exploration Test
(N=203)

Group	Items	Mean	S.D.	t ratio
Pretest	51	25.2	5.9	15.3*
Posttest	51	30.5	6.6	

*p .01

significant, it was considered reasonable to expect a higher level of accuracy on the posttest than the 60% actually obtained since the test was based directly on material in the Health Careers Exploration curriculum.

Medical Laboratory I Evaluation Instrument. The mean score on the total test was 47.1 (S.D. = 10.9), and the mean score on each subscale was approximately half of the possible score. Comparison of the subscale mean scores for the 1977-78 and 1978-79 years showed that scores had increased on ten subscales and had decreased on five subscales. Because the Medical Laboratory course was oriented towards "hands-on" training and actual performance of laboratory work figured heavily into the end-of-course grade, a score on the written test reflected only a portion of achievement in the course. The instrument required recall of specific technical information and measured cognitive aspects of "hands-on" skills in a variety of areas. The level of performance (mean percent correct = 56%), while not high, represented retention of a large amount of material.

Nelson Biology Test. The mean score on the test was 20.6 placing the High School for the Health Professions group at the 20th percentile (national norm group). The highest mean subtest scores were obtained on three subscales: Human Health and Functions, Ecological Relationships, and Methodology and Research, but all mean subtest scores were low (representing between 24% and 44% of the items answered correctly). The scope of the Nelson Biology Test encompassed material not taught in the High School for the Health Professions biology course, such as heredity, ecology, and methodology and research. This, coupled with below-average reading skills among ninth graders at the High School for the Health Professions, may account for the low score of this group relative to the norm group. Student scores on the Nelson Biology Test did not support the conclusion that traditional biology material was retained by the High School for the Health Professions students. A test developed to measure the specific objectives in the Health Careers Biology curriculum was recommended for future use.

World Cultures Curriculum Test (at Magnet Center for Public Services). The results on the test indicated that student performance was strongest for Module 1, Discovering You (68.9% correct), and weakest on Module 3, The American Experience (45.4% correct).

Automotive Tune-Up Learning Survey. Transportation Institute students' raw scores ranged from 12 (26% correct) to 46 (100% correct). The mean score was 28.3 (62% correct). Coefficient alpha was calculated to obtain an estimate of the reliability (internal consistency) of the instrument. For this administration of the test, coefficient alpha was .96, indicating a high level of internal consistency. Seven of the 16 students scored in the 70-100% accuracy range and 3 scored in the 50-69% accuracy range.

Two Cycle-Four Cycle Learning Survey. Three times as many students were administered the test in Spring 1979 (N=48) than in Spring 1978 (N=16). The mean number of items correct for 1978-79 students was 22 (44%). Four percent of the students scored between 70% and 100% correct, 23% scored in the 50-69% correct range, and 73% scored between 0 and 49% correct.

Summary and Conclusions

The special or "Magnet" schools in the DISD were established in order to conform to one aspect of the 1976 court-ordered desegregation plan. The schools were in their second or third year of operation during the 1978-79 school year. Salient features of the special school evaluations are summarized below:

1. Enrollment trends in the Vanguard and Academy programs from 1977-78 to 1978-79 revealed favorable changes in ethnic composition. Overall, the Black enrollment percentages in those programs decreased by five or six percentage points while Hispanic and White enrollments were up one to four percent. The ethnic composition of the Vanguard program during 1978-79 was 56% Black, 21% Hispanic, and 19% White. At the Academies, the percentages were 36% Black, 27% Hispanic, and 36% White. The overall ethnic composition of the Senior Magnet program remained more stable from 1977-78 to 1978-79. The percentages of Black, Hispanic, and White students in Senior Magnet schools during 1978-79 were 53%, 12%, and 33%, respectively.

2. Approximately 22% of all the students attending the Magnet High schools came from one high school attendance zone--South Oak Cliff.

3. The physical facilities at all the special schools were judged to be satisfactory (some excellent) with no substantial changes since the 1977-78 school year.

4. The special curricula and instructional program(s) characteristic of each special school were implemented. No substantial changes in curricular offerings were noted from 1977-78 to 1978-79.

5. Classroom observations indicated a high percentage of special school students attending to the learning task. Overall, student attention and classroom organization received more favorable ratings in 1978-79 than in 1977-78.

6. At the senior magnets, observations revealed career-oriented, application or hands-on activities predominating in cluster classrooms and lecture or group discussions in academic classrooms (where offered).

7. The academic achievement on standardized, norm-referenced tests varied considerably from school to school at all grade levels (Vanguards, Academies, and Magnet High schools). Academic gains in Vanguards averaged 1.0 G.E. (ITBS composite) per year with greater gains at Polk, Twain, and Earhart. Student gains at the Academies averaged 0.4 G.E. in ITBS reading and 0.6 G.E. in ITBS mathematics over six months with moderate variances from school to school. Substantial gains in both reading and mathematics were achieved by seventh and eighth graders at Holmes, while Anderson and Spence exhibited sizeable gains in mathematics at both grade levels. At Sequoyah, substantial gains in mathematics were realized by eighth-grade students. In the senior magnets, mean student achievement on the ITED composite was above average (large city norms) at the Arts Magnet High School, Magnet Center for Public Services, and the CDC; somewhat below average at Human Services Center and High School for the Health Professions; and well below average at Business Management Center and Transportation Institute.

8. Results on the BOAT revealed that, on the average, 84% of the Vanguard students obtained a total score of 50% correct or better. The percentage of students achieving a score of at least 50% varied, however, from school to school (75% to 100%). The mean percentage of Academy students passing the BOAT (i.e., obtaining a total score of 70% correct or better) was 64% with percentages ranging from 33% to 100% from school to school. The senior magnets also exhibited interschool variance on the BOAT. Taken collectively, the mean percentage of Magnet High School students passing the BOAT was 67% at grade 9, 77% at grade 10, 81% at grade 11, and 83% at grade 12. Corresponding District-wide percentages at those grade levels were 52%, 66%, 73%, and 79%.

9. A total of 14 special curriculum-referenced tests were developed or procured for use in assessing student achievement in the Magnet High School cluster areas. The results on these tests are being used to refine the tests for further use. Five of the curriculum-related tests were developed and administered during the 1977-78 school year. On each of those tests, students who were tested during 1978-79 scored higher than those who took the test during the 1977-78 school year.

Two major recommendations are made with regard to the evaluation of the DISD special schools.

1. Efforts should continue to develop curriculum-referenced tests for assessing student achievement in the area(s) of specialization at each school.

2. Since each of the special schools has been in operation for two or three years, it is recommended that a follow-up study of exiting students be performed. The study should be designed to ascertain the current field of study or employment for former Magnet High School students, and current school (and cluster or field of study, if appropriate) for former Vanguard and Academy students. The study should examine students' satisfaction with their magnet school experiences. Of particular interest should be the effectiveness of the magnet schools in (a) preparing students for employment/further study in their chosen fields, (b) providing useful information for making career decisions, (c) helping students to better understand their individual abilities and interests, and (d) furthering their knowledge and understanding of students with cultural backgrounds different from their own.

List of Related Reports

Note to the reader: Summaries and interpretations contained in this interpretative analysis were gleaned from the following evaluation abstracts:

Anderson, Mark and Murray, Wayne R. Evaluation of the Vanguard Schools, 1978-79 (Report No. SP79-427-31-30) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August, 1979.

Hebbler, Stephen W. and Mitchell, Joycelyn. Evaluation of the Skyline Career Development Center for 1978-79 (Report No. SP79-426-31-07) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July, 1979.

Johnson, Abner, Jr. and Murray, Wayne R. Evaluation of the Transportation Institute, 1978-79 (Report No. SP79-420-31-07) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July, 1979.

Lombardi, Janice D. and Murray, Wayne R. Evaluation of the Human Services Center, 1978-79 (Report No. SP79-423-31-07) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation and Information Systems, July, 1979.

Lombardi, Janice D. and Murray, Wayne R. Evaluation of the Magnet Center for Public Services: Government and Law, 1978-79 (Report No. SP79-422-31-07) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July, 1979.

Maples, Wayne and Murray, Wayne R. Evaluation of the Arts Magnet High School at Booker T. Washington, 1978-79 (Report No. SP79-425-31-07) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July, 1979.

Maxwell, G. Kay and Murray, Wayne R. Evaluation of the Business Management Center, 1978-79 (Report No. SP79-424-31-07) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July, 1979.

Peters, Vickie L. and Murray, Wayne R. Evaluation of the High School for the Health Professions, 1978-79 (Report No. SP79-421-31-07) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, July, 1979.

Staff, Phyllis E. Evaluation of the Academy Schools, 1978-79 (Report No. SP79-428-31-30) Dallas, Texas: Dallas Independent School District, Department of Research, Evaluation, and Information Systems, August, 1979.

An Interpretative Analysis of the Implementation of Educational Programs in the East Oak Cliff Subdistrict

Wayne E. Carter

The East Oak Cliff Subdistrict was established by the March 10, 1976, Court order for desegregation of the Dallas Independent School District (DISD) and was placed under a special mandate to provide a viable alternative to the education of a predominately Black clientele. The mission of the East Oak Cliff Subdistrict was to develop a comprehensive and responsive educational program for its students. The Subdistrict had the responsibility of providing a system of education that would increase the quantity of student learning as well as the quality of adult and student interaction.

This report is presented as a synthesis of many evaluation reports written by personnel from the DISD's Department of Research and Evaluation. The types of reports considered here for summation and synthesis fall in three categories: institutional research reports; special schools and programs reports; and specially funded project reports. Only reports which provided clearly distinguishable information about East Oak Cliff programs were selected for inclusion in this interpretative analysis.

Reports in the category of institutional research include the results of the DISD System-wide Testing Program, longitudinal achievement studies, follow-up surveys, enrollment projections, and enrollment trend studies. Reports in the special schools and programs category include evaluations of the Vanguard and Academy schools, of the Pushing

Excellence in Pupils (PEP) program, and of the East Oak Cliff Life Skills mathematics program. Reports in the category of specially funded programs include the evaluation results of the Title-I program and the Emergency School Aid Act program.

Institutional Research Reports

Enrollment Trend Studies

Sheehan and Berry reported in Eleven-Year Enrollment Trends (IR79-091-31-05) that enrollment in the East Oak Cliff Subdistrict had remained relatively stable over the past 11 years. The enrollment of 26,427 students in the Subdistrict in the year 1978-79 represented an increase of 4.1% over the enrollment of 25,396 in the year 1968.

The late sixties and early seventies saw the most drastic change in ethnic group membership in the Subdistrict. Anglo student enrollment decreased from 1,641 students in 1968-69 to 343 students in 1971-72. This represented a change from 6.5% of the total enrollment in 1968-69 to 1.4% of the total population in 1971-72. Black students increased from 22,747 to 25,315 in the same time period and comprised 89.6% of the total population in 1968-69 and 95.9% in 1971-72. Both the Anglo and Black ethnic group composition has remained relatively stable since 1971-72. There were 248 Anglo students and 25,561 Black students enrolled in the Subdistrict in 1978-79. These groups comprised 0.9% and 96.7% of the total population, respectively.

Hispanic student enrollment has been more varied over the past 11 years. In 1968-69 there were 973 Hispanic students enrolled for 3.8% of the student enrollment. This enrollment increased to 1,067 students

(4.2% of the enrollment) in 1969-70, decreased to a low of 464 students (1.7%) in 1975-76 and has gradually increased to 603 students (2.3%) in 1978-79.

Using actual enrollment data from 1968-1977, Sheehan and Berry projected enrollment in the East Oak Cliff Subdistrict for the period 1979-83 (IR79-088-31-05). These projections indicated that total enrollment in the Subdistrict is expected to decline steadily over the next five years. Projected total enrollment in 1983-84 is 24,679 students, 6.6% less than the 1978-79 total enrollment. Ethnic group enrollment projections varied across ethnic groups and school levels. Black enrollment was projected to decrease across all grade levels. White enrollment was projected to decrease at the elementary, intermediate, and secondary levels and to increase at the middle school level. Hispanic enrollment was projected to increase at all grade levels. Composition of the student enrollment in East Oak Cliff in 1983-84 is expected to be 95.3% Black (23,509 students), 1.2% White (306 students), and 3.5% Hispanic (852 students).

System-wide Test Results

Metropolitan Readiness Test (MRT). The MRT is published in two test levels, Level 1 and Level 2. According to the test publisher, Level 1 was designed for administration at the beginning of kindergarten while Level 2 was designed for use at the end of kindergarten or the beginning of grade 1. Level 1 was administered to 302 kindergarten students in the East Oak Cliff Subdistrict while Level 2 was administered to 1,523. The results of the testing were reported by Whitmore, Miller and Olson in Norm-Referenced Performances profiles: East Oak Cliff Subdistrict

1978-79 (IR79-006-34-30). Table 1 presents the median percentile and percent average (4-6 Stanine) or above average (7-9 Stanine) students on the MRT pre-reading composite, language and quantitative portions of the test for both Level 1 and Level 2.

Table 1

Median Percentile and Percent of Average or Above-Average East Oak Cliff Subdistrict Students on the MRT

	Pre-reading		Language		Quantative[a]
	L1	L2	L1	L2	L2
Median %ile[b]	18	38			
% Average or Above	41	69	52	67	64

[a]Quantitative scores were available only on Level 2.

[b]Median percentiles were available only for the pre-reading portion of the test.

The rationale used for assignment of the MRT levels in 1979 was unknown. A larger percentage of the students tested were classified as average or above-average on the Level 2 test than on the Level 1 test in both language and pre-reading readiness, with approximately two-thirds of the students tested being given this rating based upon their Stanine scores.

Iowa Tests of Basic Skills (ITBS). Students in grades one through eight were administered the ITBS. The results of this administration are presented in Table 2. Two types of information are presented: the percentile rank of the median scoring student and the percentages of

Table 2

Summary of the 1978-79 ITBS Test Results for the East Oak Cliff Subdistrict

		Black							Total					
		Reading		Language		Math			Reading		Language		Math	
Grade	N	a	b	a	b	a	b	N	a	b	a	b	a	b
1	1940	48	50	46	43	46	47	2020	48	49	46	42	46	47
2	1997	48	46	56	51	37	34	2075	48	46	56	51	37	34
3	1691	37	38	48	47	26	25	2147	34	38	46	47	26	25
4	1997	29	26	34	34	15	21	2062	26	26	31	34	15	21
5	1901	21	20	24	27	11	16	1967	21	20	24	27	11	16
6	1927	17	16	21	25	8	12	1996	19	16	21	26	8	12
7	1968	16	16	14	18	6	10	2071	16	17	15	19	7	12
8	2052	11	12	10	13	5	8	2117	11	13	11	14	6	8

a = Median percentile score

b = Percent at or above the national large-city 50th percentile.

students who scored at or above the national large-city 50th percentile. This information is presented by grade level and subtest for the Black students and for the total student population.

Examination of Table 2 leads to the following conclusions:

1. Median percentile in reading appeared to remain stable at the first and second grade, dropped sharply from the second to the fourth grade and continued to decline through the eighth grade. Median percentiles in language were the highest in the second grade but appeared to drop sharply through the fifth grade, and then continued to decline through the eighth grade. Median scores in mathematics declined sharply from the first through the fourth grade and continued to decline through the eighth grade.
2. Language and reading median scores indicate that students performed about the same in these two areas except at the second through sixth grade levels where performance in language was higher. With the exception of first grade, students in all grades performed substantially better in reading and language than they did in mathematics.

It should be mentioned, at this point, that students in kindergarten through third grade, where median percentile scores in all areas are higher than those in higher grades, are students who were not enrolled in the Subdistrict schools before the 1976 court-order. The disparate median percentile scores may reflect a better educational and instructional program beginning at the elementary grades.

Table 2 also presents information about the percentage of students scoring at or above the national large-city 50th percentile (at or above norm). Analysis of this information indicates that a slight majority of the students were performing at or above norm in language at the second grade level, and near norm at the first grade in all areas reported. Generally as the grade level increased, the percentage of students scoring at or above norm decreased.

Iowa Tests of Educational Development (ITED). Students enrolled in grades 9-11 were administered the ITED. Table 3 presents the median percentile scores, in national large-city percentiles, attained by the middle-scoring students.

Table 3

Summary of the 1978-79 ITED Results for
East Oak Cliff Students

		Black							Total					
		Reading		Language		Math			Reading		Language		Math	
Grade	N	a	b	a	b	a	b	N	a	b	a	b	a	b
9	1605	14	5	11	11	28	14	1614	14	5	11	11	28	14
10	1158	11	11	10	15	31	16	1169	11	11	10	15	31	16
11	935	11	9	10	11	28	11	940	11	9	10	11	28	11

a = Median percentile score

b = Percent at or above the national large-city 50th percentile.

Median percentile scores were below norm on all subtests and at all grade levels. They were higher in mathematics than in reading and language, and somewhat higher in grade 9 in reading and language and in grade 10 in mathematics.

Because of the low level of performance, however, caution should be exercised in attaching any significance to these differences in median percentile scores. The percentages of students scoring above the 50th percentile on national large-city norms (column b) tend to provide a better means of comparison and indicate that student performance in mathematics was higher than performance in reading at grades 9 and 10 and about the same at grade 11. Performance in mathematics appears to be about the same as performance in language at all grade levels.

The percent of students who scored at or above the national large-city 50th percentile (at or above norm) was higher in all areas at the tenth grade. The students tended to score higher at the tenth grade in language and mathematics than in reading, a reversal of the trend observed in grades 1-8, where students tended to score higher in reading and language than in mathematics.

Basic Objectives Assessment Tests (BOAT). The BOAT was administered to all students in grades 3, 6, and 8-12. The test which was administered to students in grades 3 and 6 is an objectives-referenced instrument designed to measure student progress toward mastery of basic skills in reading and mathematics as prescribed by the Baseline Document. The test which was administered in grades 8-12, in addition to measuring student progress toward mastery of basic skills, was designed to measure knowledge in seven functional application areas: consumerism, community, medical, home, employment, government, and information sources and is the test which all students who graduate from high school will eventually be required to pass.

Table 4 presents the mean percent of BOAT items answered correctly for Subdistrict students and non-Subdistrict Black students by grade level. This table indicates that there were no appreciable differences between the mean percent of items answered correctly for East Oak Cliff Subdistrict students and for non-East Oak Cliff Black students. Subdistrict students at the first and eighth grade had slightly higher mean percent correct items than did non-Subdistrict Black students.

Table 5 displays percentages of students by grade level who successfully answered increasing percentages of items. This table indicates that approximately 80 percent of the students at both the third and sixth grade levels answered at least 50 percent of the items (which dealt with objectives from the Baseline Document) correctly. Performance on the BOAT declined sharply beyond this point, for these two grades.

At the eighth through twelfth grade levels, performance on the BOAT declined sharply beyond the 40 percent correct level. Looking at the distributions of percentages across grade levels indicates that students at the higher grade levels were performing better than students at the lower grade levels. Of particular interest is the percentage of students who answered at least 70 percent of the items correctly, since this is the future criterion for high school graduation. Table 5 indicates that approximately the same percentages of students answered at least 70 percent of the items correctly at the eighth and ninth grade levels and that percentages at the tenth through twelfth increased substantially (i.e., from 26% to 55%).

Longitudinal Achievement

The previous section dealt with the system-wide test results for the 1978-79 academic year and gave an indication of the educational achievement levels at that time. In this section, the 1979 system-wide test data will be compared to that of previous years. Two types of longitudinal data are discussed: quasi-longitudinal and cohort-longitudinal. Quasi-longitudinal data measures performance at the same grade level over at least two points in time. Cohort-longitudinal data measures the performance of the same individual across grade levels

Table 4

Mean Percent of BOAT Items Answered Correctly

Grade	Number of Items	Number Tested		Mean Percent of Correct Items	
		EOC	Non-EOC	EOC	Non-EOC
3	27	2176	2978	69	68
6	29	2129	2622	65	66
8	125	2205	2764	58	54
9	125	1747	3355	59	59
10	125	1409	2820	64	66
11	125	1180	2354	67	69
12	125	988	1976	71	71

Table 5

Percentage of Students Correctly Answering Various Percentages of BOAT Items Correctly

Grade	20%	30%	40%	50%	60%	70%	80%	90%
3	97	93	89	80	68	58	40	15
6	99	95	90	78	60	48	42	7
8	99	94	83	67	48	27	10	2
9	99	94	86	70	50	26	10	1
10	99	97	91	79	61	40	18	4
11	99	98	94	84	68	47	23	4
12	99	98	95	87	75	55	32	10

over a period of years. Quasi-longitudinal information provides information about achievement at the same grade level at different points of time and is thus subject to distortion due to differences in populations. Cohort-longitudinal information controls for population differences and is more sensitive to educational program effects; however, these data are subject to the counfounding effect of selection bias. The assumption is, then, in the interpretation of the longitudinal data, that the population shifts that have occurred in the Subdistrict are random in nature with respect to achievement and ability levels of students lost.

Perhaps a word of caution is needed here to assist the reader in the comparisons of scores involving the results of the ITBS at the second grade level. Level 7 of the ITBS was administered to second-grade students in Spring 1978 and Level 8 was administered in Spring 1979. Subsequent to the testing, it was discovered that the second-grade norms for Level 7 were inappropriate. This resulted in an artificial depression of mathematics scores in 1978. This problem was corrected with the administration of Level 8 of the ITBS in Spring 1979, and resulted in a more accurate indication of second-grade student achievement. A more detailed analysis of the problem is presented by Olson and Meier (RE79-800-61-30).

Quasi-Longitudinal Data. Table 6 presents the changes in grade level median percentile scores and percentages of students who scored at or above the national large-city 50th percentile. For grades 1, 3, 5, 7, 9, 10, and 11 the data came from the System-wide tests administered in Spring 1978 and Spring 1979. Longitudinal data were available for a span of a greater number of years for grades 2, 4, 6, and 8 because of the System-wide testing pattern employed before Spring 1978 when only even grade levels (2, 4, 6, 8) were tested at the elementary school level.

Before discussing the data presented in Table 6, the reader should be reminded that, because of the nature of the distribution of test scores, changes in percentile ranks signify different magnitudes of change in achievement level at different points along the percentile continuum. In general, a change in percentile ranks at the ends of the continuum (1-25, 75-99) are interpreted as being more significant in terms of changes in achievement level than changes in the middle portion of the continuum. In addition changes in percentile ranks away from the midpoint (50th percentile) may be regarded as more important than change toward the midpoint.

The median percentiles for the standaradized test administered by System-wide Testing (ITBS for grades 1-8, ITED for grades 9-11) displayed in Table 6 indicate that:

1. Median percentiles in reading remained stable at grades 1, 9, and 11 over the year S78 to S79; improved at grade 4 from F73 to S78 and remained stable from S78 to S79; recovered from a decline from F73 to S78 in the Spring of 1978 at grades 6 and 8; improved from S78 to S79 at grades 3, 5, and 7; and declined slightly at grade 10 from S78 to S79.

2. Median percentiles in language remained stable at grades 1, 3, 9 and 10 from S78 to S79; continually improved from F73 to S79 at grade 4; improved from S78 to S79 at grade 5; and declined slightly at grade 11 from S78 to S79. Comparisons for S78 to S79 could not be made for grades 6, 7, and 8 because the language subtest was not administered, but F73 to S79 comparisons for grades 6 and 8 indicate a trend of increased achievement.

3. Median percentiles in mathematics remained stable in grades 1, 9, 10, and 11 from S78 to S79; declined from F73 to S78 at grades 4, 6, and 8 but began to recover from the decline from S78 to S79; improved at grades 3 and 7 from S78 to S79; and showed a substantial improvement at grade 5.

4. Because of the problems reported earlier with S78 scores at the second grade level, no comparisons could be made between S78 and S79 scores; however, improvements in median percentiles were noted in all areas from F73 to S79.

Table 6 also presents the percentages of students who scored at or above the norm on each of the subtests administered. (Recall that the norm is the national large-city 50th percentile.) Examination of this information which gives a good indication of the Subdistrict's achievement, indicates that in the Spring 1979:

1. In nearly all cases, a larger percentage of students scored above norm in reading than were doing so on the first test administration (F73 at grades 2, 4, 6, and 8 and S78 at grades 1, 3, 5, 7, 9, 10, and 11). In fact, at grade 4 the percentage doubled (from 13 to 26 percent) and at grade 2, the percentage increased from 32 to 46 percent. The exceptions occurred at grade 1 where the percentage of students at or above norm remained stable and at grades 9, 10, and 11 where the percentages decreased slightly.

2. In language, nearly all of the grade levels again showed an increase in the number of students at or above norm. In grades 2 and 4, this increase was substantial, increasing approximately by a factor of 3. Slight decreases in the percentage of students at or above norm were noted at grades 1, 9, and 11.

3. In mathematics, increases in percentages of students at or above norm were noted at all grade levels except at grade 9, where the percentages were stable, and grades 10 and 11, where the percentages decreased slightly.

Cohort-Longitudinal Data. This section discusses the achievement growth of given cohorts of students over a period of years. A cohort was defined as a group of students for whom test scores were available on two

Table 6

Changes in Median Percentile Rankings and Percentages of Students who Scored At or Above Norm (Quasi-Longitudinal Data)

		Reading		Language		Mathematics	
Grade	Year	Median Rank	% At or Above Norm	Median Rank	% At or Above Norm	Median Rank	% At or Above Norm
1	S78	48	49	46	45	46	43
	S79	48	49	46	42	46	47
2	F73	32	32	22	19	24	23
	S78	51	52	59	51	19	16
	S79	48	46	56	51	37	34
3	S78	30	31	46	44	22	19
	S79	34	38	46	47	26	25
4	F73	20	13	20	11	18	7
	S78	26	25	28	32	12	19
	S79	26	26	31	34	15	21
5	S78	19	18	21	25	4	11
	S79	21	20	24	27	11	16
6	F73	18	13	14	15	12	9
	S78	12	13	-	-	5	9
	S79	19	16	21	26	8	12
7	S78	11	12	-	-	5	7
	S79	16	17	15	19	7	12
8	F73	10	8	12	10	10	4
	S78	8	8	-	-	5	5
	S79	11	13	11	14	6	8
9	S78	14	8	11	12	28	14
	S79	14	5	11	11	28	14
10	S78	13	13	10	13	31	18
	S79	11	11	10	15	31	16
11	S78	11	11	13	14	28	14
	S79	11	9	10	11	28	11

occasions over a period of years. Twelve cohort groups were identified. Cohorts 1-2, 2-3, 3-4, 4-5, 5-6, 9-10, and 10-11 are groups of students who had test scores available for Spring, 1978, and Spring, 1979. Cohorts 4-6, 6-8, and 9-11 are groups of students who were tested in the Fall, 1976 and in Spring, 1979. Cohorts 7-7 and 8-8 are groups of students who were tested in Fall, 1978 and Spring, 1979.

The achievement growth data were compared with expected growth rates determined from the norm tables provided by the test publishers. Table 7 presents the results of this analysis. In most cases, achievement growth for students in the Subdistrict equaled or exceeded the expected growth rate. The notable exceptions occurred in the 9-11 cohort where the achievement growth fell short of expected growth on all tests, in the 3-4 cohort where achievement growth fell short on the Language Subtest, and in the 9-10 cohort where achievement growth fell short in the Reading and Mathematics Subtests. Because of the problems with Spring 1978 scores noted previously, comparisons for the 2-3 cohort were not made.

Table 8 presents the median percentile scores of both cohort and non-cohort students. Non-cohort students are those students who were identified as having been pretested or posttested but not both. The reasons for the existence of non-cohort student could be many, four of which are listed here: (1) a student left the Subdistrict after pretesting, (2) a student entered the Subdistrict after pretesting and before posttesting, (3) a student was not in school at the time of

Table 7

Summary of Cohort Achievement--East Oak Cliff Subdistrict

Cohort	Reading	Language	Mathematics
1-2	B	A	B
2-3	C	C	A
3-4	B-	C-	B-
4-5	B-	B-	B-
4-6	B-	A-	B
5-6	B-	B-	A-
6-8	B-	B-	B-
7-7	B-		B-
8-8	B-		B-
9-10	C-	B-	C-
9-11	C-	C-	C-
10-11	B	B-	B-

A = Exceeds growth of the norm group at the appropriate point on the distribution

B = Equals growth of the norm group at the appropriate point on the distribution

C = Falls short of the growth of the norm groups at the appropriate point on the distribution

+ = Finished above norm, - = finished below norm, blank = finished at norm testing, and (4) erroneous student identification codes prohibited matching of test information for pre- and posttesting. The analysis is predicated on reasons 1 and 2. Inspection of Table 8 reveals that:

1. In 29 of the 31 comparisons, median percentile pretest scores were higher for cohort students than for non-cohort students. Thus in 94% of the comparisons the Subdistrict retained better-achieving students than it lost, on the average. In the remaining comparisons, students who were retained performed at the same level as students who were lost.
2. In 25 of the 31 comparisons, median percentile posttest scores were higher for cohort students than for non-cohorts. Thus in 81% of the comparisons, students retained in the Subdistrict were better achievers than those who entered, on the average. In another 3 (10%) of the comparisons, students who were retained performed equally to those who entered.

Follow-Up Study

Marcus and Julian (IR79-020-31-10) conducted a follow-up study to gather information on the occupational and educational pursuits of 1977 graduates. Of the 906 students who graduated from the Subdistrict in 1978, 644 (71.1%) of the students were contacted. Of those contacted, 302 (46.9%) were attending school, either full-time or part-time. Another 269 (41.8%) were employed and not attending school, 15 (2.3%) were full-time homemakers, and 58 (9.0%) were unemployed.

Summary of Institutional Research Reports

Based upon the information reported above we can arrive at the following conclusions.

1. While the characteristics of the student population changed between 1968 and 1979, the total enrollment has been relatively stable. The total enrollment over the next five years (1979-1984) is expected to decline steadily and to be approximately 6.6% less than the 1978-79 total enrollment.

Table 8

Median Percentile Scores of Cohorts and Non-Cohorts

Grade	Reading				Language				Mathematics			
	Cohort		Non-Cohort		Cohort		Non-Cohort		Cohort		Non-Cohort	
Cohort	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1-2	54	48	40	38	46	56	34	49	46	37	36	37
2-3	51	36	48	34	59	48	49	40	24	26	19	26
3-4	30	26	27	29	46	31	40	34	22	15	18	15
4-5	29	24	23	13	31	30	21	19	15	11	8	7
4-6	22	19	16	14	24	24	16	15	8	8	6	6
5-6	19	19	11	14	24	24	11	13	7	8	3	4
7-7	16	19	7	10					6	8	3	3
8-8	11	13	7	5					5	6	3	2
9-10	17	33	8	11	14	11	11	10	35	31	17	24
9-11	17	11	17	10	17	13	15	7	29	28	37	31
10-11	13	11	11	10	11	13	8	7	31	28	31	27

2. While performance on standardized test continues to be below normal in most areas at most grade levels, the Subdistrict has shown improvement in achievement. The longitudinal studies conducted indicate that students in all grade levels, except at the high school level, are generally increasing in achievement and that the large gains in achievement in reading and language reported in 1978 appear to be holding for 1979.

3. A large majority of the Subdistrict graduates of 1977 were either attending school (46.9%) or employed (41.8%). Nine percent of those contacted reported that they were unemployed.

Special School and Program Reports

Special Schools

During the 1978-79 school year, two DISD special or "magnet" schools were located in the East Oak Cliff Subdistrict. Maynard H. Jackson was a Vanguard school (grades 4-6) based upon Individually Guided Education and included all 4-6 students enrolled in the school. Oliver W. Holmes Academy (7-8 grades) emphasized classical studies and functioned as a school within a school; that is, the school itself housed both Academy and traditional students.

Anderson and Murray (SP79-427-31-30) reported on the evaluation of the Vanguard schools, and Staff (SP79-428-31-30) reported on the evaluation of the Academies. Classroom observation conducted during 1978-79 indicated that the special programs of these schools were operational and were impacting students. Further observation indicated that 91% of the students of Maynard Jackson and 93% of the Academy students at Oliver W. Holmes were attending to the learning task assigned at the time of observation.

In the area of academic achievement, analysis of the DISD System-wide Testing data for students at Vanguards and Academies indicated that gains in composite scores for fourth- and sixth-grade students at Maynard Jackson compared favorably with students at other Vanguards and that Academy students at Oliver W. Holmes made substantial gains in both reading and mathematics. The Basic Objectives Assessment Test (BOAT) was administered to sixth-grade Vanguard students and eighth-grade Academy students. The results of the analysis of the BOAT indicate that approximately 75% of the sixth-grade Vanguard students answered at least 50% of the items correctly and approximately 37% of the students answered at least 70% of the items correctly. This compares with 84% and 44%, respectively, of all of the Vanguard students and 85% and 61%, respectively, of all DISD sixth-grade students. At Oliver W. Holmes, 79% of the eighth-grade academy students correctly answered at least 70% of the items.

Pushing Excellence in Pupils Program (PEP)

Rick and Lym reported on the 1978-79 Pushing Excellence in Pupils Program (PEP) (SP79-401-31-08). The program was implemented in twelve schools (Budd, Harllee, Jackson, Lisbon, Marsalis, Miller, Mills, Oliver, Patton, Russell, Thornton, and Young). It was the first year of the PEP program in Budd, Harllee, Lisbon, Miller, Mills and Patton. The program was observed to be operating smoothly and according to guidelines.

The results of the pre- and posttesting on the Iowa Tests of Basic Skills (ITBS) is presented in Table 9. Posttest mean grade equivalent scores were compared to equipercentile grade equivalent scores on each subtest. The equipercentile grade equivalent scores were the expected posttest mean grade equivalent scores based on pretest performance. Analysis of the information in this table indicates that fourth-grade

Table 9

Achievement of PEP Students on the ITBS

Test	N[a]	Pretest			Posttest			Equipercentile	Difference	
		Mean G.E.	S.D.	%ile[b]	Mean G.E.	S.D.	%ile[b]	G.E.	A	B
					Grade 4					
Vocabulary	79	4.5	0.84	81	5.2	0.90	72	5.6	-0.4	-9**
Reading	79	4.4	0.74	79	5.1	1.04	73	5.4	-0.3	-6*
Math Concepts	80	4.0	0.75	68	5.0	1.01	66	5.0	0.0	-2
Mathematics Problem Solving	78	3.9	1.81	62	5.1	0.99	70	4.8	+0.3	+8**
					Grade 5					
Vocabulary	67	5.1	0.87	90	6.0	1.24	66	6.1	-0.1	-4
Reading	68	5.4	1.04	79	6.1	1.13	72	6.4	-0.3	-7*
Language Total	61	5.6	0.94	77	6.5	1.23	74	6.7	-0.2	-3
Math Concepts	67	4.8	1.11	61	6.0	1.51	66	5.8	+0.2	+5
Mathematics Problem Solving	68	4.9	1.08	63	6.2	1.33	72	5.9	+0.3	+9
					Grade 6					
Vocabulary	90	6.1	1.23	69	7.2	1.36	71	7.1	+0.1	+2
Reading	90	6.2	1.16	74	7.1	1.43	71	7.2	-0.1	-3
Language Total	85	6.2	1.31	70	7.5	1.51	74	7.2	+0.3	+4
Math Concepts	89	5.5	1.12	53	6.7	1.48	59	6.5	+0.2	+6
Mathematics Problem Solving	89	5.7	1.26	57	6.7	1.38	58	6.6	+0.1	+1

Note. The pretest was given in April 1978 and the posttest was given in April 1979. The language battery was not given at the primary level in April 1978.

A = Posttest percentile G.E. - Equipercentile G.E.
B = Posttest percentile - Pretest percentile

[a] Number of students who received pretest and posttest.

[b] Percentile of the mean grade equivalent based on large-city norms.

[c] The grade equivalent necessary to retain the percentile of the pretest mean grade equivalent.

* Statistically significant at p less than 0.05.

**Statistically significant at p less than 0.01.

students performed significantly higher than was expected on an equipercentile grade equivalent basis on the mathematics problem solving. This table also indicates that fourth-grade students performed significantly lower than the equipercentile grade equivalent score in vocabulary and reading, as did grade 5 students in reading.

Three levels of students--high achieving, highly creative, and high potential students--were enrolled in the PEP program. Separate data analyses by grade level and student classification were conducted by Rick and Lym. The results of these analyses were reported in detail in SP79-401-31-08. In summary, the analyses revealed that significantly higher posttest performance than equipercentile posttest scores were made by fourth-grade students in math problem solving, and sixth-grade students in language total and mathematical concepts for students classified as high achieving. Lower than expected performance was noted for highly creative fourth-grade students in vocabulary and reading and for high potential fourth- and fifth-grade students in both vocabulary and reading, fourth-grade students in mathematics concepts, and fifth-grade students in language.

Results of these analyses indicate that the PEP program was not overly successful in improving the achievement of the high potential group of students, especially in the lower grades. Otherwise the program appeared successful.

Life Skills in Mathematics

The Life Skills in Mathematics Program (LSMP) was implemented in the Subdistrict to help students meet a minimum level of mathematical competence. The evaluation of this program was reported by Almaguer

(SP79-405-31-02). The program was implemented in all Subdistrict secondary schools during the 1978-79 school year but was evaluated only at South Oak Cliff, A. Maceo Smith, and Franklin D. Roosevelt.

The Life Skills Mathematics Test was administered to (a) assess pre- to posttest gains, (b) assist in the identification of curriculum weakness with respect to the 19 math skill areas, (c) provide student diagnostic information for the 1979-80 school year, and (d) examine the relationship between the Life Skills Mathematics Cluster Test (LSMCT) and the Basic Objectives Assessment Test (BOAT). The areas of instruction in the program were approximation, spending behaviors, currency, cost comparison, tables and graphs, time calculations, job applications, salary and wages, insurance, interest, banking, budget, income tax calculations, sales tax, maps, discount rate, travel, metrics, and geometry.

Table 10 presents the results of the analyses of the LSMCT. The data in this table indicate that significant gains were made from pretest to posttest.

To assist in the identification of areas of weakness in the posttest, results were tabulated by skill area. Mathematics personnel indicated that skill areas which were mastered by less than 70% of the student population warranted additional emphasis. Under this guideline, all areas except spending behavior, currency, and job application were suggested for additional instructional emphasis.

Almaguer reported moderately strong positive linear relationships ($r=.59$, .62, .66, .62 for grades 9-12, respectively) between the LSMCT and the BOAT, indicating that high LSMCT scores had a tendency to be associated with high BOAT scores.

Table 10
Statistical Tests of Significance on
Pretest to Posttest Gains on the
Life Skills Mathematics Cluster Test
for Grades Nine, Ten, and Eleven

Grade School	N	Pretest Mean	Std. Dev.	Posttest Mean	Std. Dev.	*t*
Ninth	281	30.8	11.7	35.3	13.0	6.5*
South Oak Cliff	31	26.8	11.2	34.5	11.2	3.6*
Franklin D. Roosevelt	79	31.8	11.3	33.6	13.0	1.6 ns
A. Maceo Smith	171	31.0	11.9	36.2	13.3	5.6*
Tenth	543	34.0	12.4	38.1	13.5	9.8*
South Oak Cliff	315	34.1	12.2	38.4	13.0	8.5*
Franklin D. Roosevelt	136	36.9	12.7	39.8	13.2	3.4*
A. Maceo Smith	92	29.3	11.0	34.7	15.3	4.2*
Eleventh	257	34.4	11.3	37.4	12.9	5.5*
South Oak Cliff	145	33.8	11.0	36.7	12.5	4.0*
Franklin D. Roosevelt	83	37.3	11.4	40.5	13.6	3.1*
A. Maceo Smith	29	28.8	10.2	32.0	11.0	2.0*
Ninth, Tenth, and Eleventh	1081	33.2	12.0	37.2	13.3	12.9*
South Oak Cliff	491	33.5	11.9	37.7	12.8	9.9*
Franklin D. Roosevelt	298	35.7	12.2	38.4	13.5	4.7*
A. Maceo Smith	292	30.2	11.4	35.3	13.7	7.3*

Note. These statistics are based solely on students which had both pretest and posttest scores.

* p less than .05
ns = not significant

Almaguer also reported that diagnostic information, based upon performance on the posttest, would be available for the 1979-80 school year.

Summary of Special Schools and Program Reports

Information reported in this section indicates that:

1. Both the Maynard Jackson Vanguard School and the Oliver W. Holmes Academy were functioning and impacting students. The achievement of students at Jackson compared favorably with achievement at other Vanguard schools. The achievement of students at Holmes indicated that they made substantial gains in both reading and mathematics.

2. The PEP program was implemented in a total of 12 Subdistrict schools, six of those for the first time this year, and was functioning smoothly and according to guidelines in all schools. The academic achievement of PEP students was mixed with the students demonstrating achievement as expected in most areas. The program appeared to be more effective in working with high achieving students and with highly creative students than with high potential students.

3. The Life Skills in Mathematics program was implemented in nine Subdistrict schools but was evaluated in only the three high schools. Students enrolled in this program demonstrated significant pre- to posttest gains in the Life Skills Mathematics Cluster Test (LSMCT). A moderately strong relationship was found between scores on the LSMCT and the BOAT. Diagnostic information on students taking the LSMCT in the Spring, 1979, was expected to be available for mathematics teachers in the Fall, 1979.

Specially Funded Programs Reports

Reports in this category include the evaluation of the East Oak Cliff Title-I program and the Emergency School Aid Act Pilot Project.

Title-I Reports

During the 1978-79 school year the Title-I component in the Subdistrict continued the 1977-78 program, focusing on the implementation of a comprehensive program utilizing a variety of curriculum materials correlated with the District's baseline curriculum. Title-I funds were utilized to operate a Personnel Development Center, a Bilingual Education Program, a Multicultural Social Studies Program, a Supplemental Mathematics Program, a Supplemental Reading/Language Arts Program, and a Community Involvement Program.

Personnel Development Center. The East Oak Cliff Title-I Personnel Development Center was the subject of an evaluation report by Andrews (TI79-345-35-16). The Center was designed to provide on-going staff training for East Oak Cliff Subdistrict personnel involved with Title-I programs. The Center had as its objectives that (a) all administrators who managed a Title-I program in the East Oak Cliff Subdistrict would receive a 15-hour workshop, (b) all other Title-I personnel would attend 15 hours of training, and (c) 50% of the Parent Advisory Committee members would attend a 15-hour workshop. The personnel in the 16 East Oak Cliff schools not involved in the Campus Level Planning Project were contacted to determine their participation in the Center's staff training programs. Included were 16 Instructional Resource Teachers (IRT), 23 Reading Demonstration Teachers (RDT), 16 Mathematics Demonstration Teachers (MDT), 2 Kindergarten Demonstration Teachers, 57 reading aides, 16 mathematics aides, 23 kindergarten aides, and 5 bilingual aides.

Participants in the Center's training activities were drawn from all levels of the East Oak Cliff Subdistrict. Administrators attended some sessions as learners and others as teachers. All administrators who managed Title-I programs received 15 hours of training designed to aid them in assisting Title-I students. All federally funded professional personnel also met the objective of attending 15 hours of training designed to (a) assist them in understanding the special needs of a minority urban student population and (b) equip them to aid the academic growth of Title-I students more effectively. However, only 62.5% of the paraprofessionals received the 15 hours of training stipulated in the proposal. Many paraprofessionals expressed a need and desire for more training. Finally, records showed that 34 parent workshops were held in the East Oak Cliff Subdistrict where 692 people received information about Title-I programs. The conclusion was that the parent involvement objective of the Center was met.

Bilingual Education Program. Andrews documented the evaluation of the East Oak Cliff Title-I Bilingual Education Program (BEP) in report TI79-345-34-09. The BEP was designed to meet the instructional needs of students in the East Oak Cliff Subdistrict with limited English-speaking ability. In three schools (Budd, Johnston, and Seguin), the BEP was to provide eligible Title-I students with relevant materials and instruction in their dominant language. The academic objective was that 80% of the BEP students would make grade-equivalent gains of from 1.0 to 1.5 months per month of instrution while the remaining 20% would make gains of from 0.5 to 1.0 as measured by the ITBS.

The East Oak Cliff BEP served 102 students in three schools in grades one through six. Five bilingual teacher aides were assigned to the three schools; all were Hispanic women. A Bilingual Resource Teacher was hired in March, 1979.

The late hiring of the Bilingual Resource Teacher hindered the BEP's implementation. Materials were ordered in March. One of the three schools had no bilingual teachers; all instruction in Spanish was done by the aide in the resource room. The other two schools had bilingual teachers; there the aides worked with classroom teachers.

BEP students' achievement was measured by the Reading Comprehension and Vocabulary Subtests of the ITBS. Table 11 shows the results of the analysis. The objective that 80% of the students gain one month's achievement for one month's instruction was not met in any grade on either subtest. Achievement in reading comprehension was moderate in fourth and fifth grades. Results on the Vocabulary Subtest were not as positive as on the Reading Comprehension Subtest.

Table 12 shows a pretest-posttest analysis of ITBS grade-equivalent scores for BEP students. With the exception of sixth-grade students' performance on the Reading Comprehension Subtest, gains were made on both subtests by all grades. It is not unreasonable to speculate that gains may have been larger if the program had received a higher level of implementation and if the limited English-proficient students were measured with an instrument which was more sensitive to their English language skills.

East Oak Cliff Title-I Multicultural Social Studies Program. Andrews (TI79-345-33-03) reported on the evaluation of the East Oak Cliff Title-I Multicultural Social Studies Program (MSSP). This program was to provide supplemental social studies enrichment activities for Title-I students in kindergarten through sixth grade on 19 campuses. The academic objective called for 75% of MSSP students to show a 25% gain on the Social Studies Criterion-Referenced Mastery Test. The remaining 25% of the students were to show a gain of 10% on the test.

Table 11

EOC Title-I Bilingual Program Student Gain Distribution Per Month Instruction on the ITBS Reading Comprehension and Vocabulary Subtests in Grade Equivalents for 1978-79

		Grade Equivalent Gain[a]				
Grade		0.0 or Less	At Least .1	At Least .5	At Least 1.0	n
1	Comprehension	0.0%	100.0%	84.4%	59.4%	32
	Vocabulary	3.1	96.9	68.8	43.8	32
2	Comprehension	34.8	65.2	52.1	34.7	23
	Vocabulary	34.8	65.2	52.1	30.4	23
3	Comprehension	25.0	75.0	50.0	25.0	8
	Vocabulary	0.0	100.0	87.5	37.5	8
4	Comprehension	25.0	75.0	66.7	50.0	12
	Vocabulary	25.0	75.0	66.7	50.0	12
5	Comprehension	0.0	100.0	71.5	42.9	7
	Vocabulary	42.8	57.2	42.9	42.9	7
6	Comprehension	50.0	50.0	37.5	25.0	8
	Vocabulary	12.5	87.5	75.0	37.5	8

[a] Gains above 0.0 are cumulataive. Gains at Grade 1 were determined by arbitrarily assigning a pretest score of .6. Gains are calculated between April, 1978, and April, 1979.

Table 12

Reading Comprehension and Vocabulary
Mean Grade Equivalents for EOC
Bilingual Students

Grade	Number of Students	Mean Grade Equivalent		Gain
		Pretest	Posttest	
		Reading Comprehension		
1	32	-	1.6	-
2	23	1.6	2.1	.5
3	8	1.8	2.1	.3
4	12	2.4	3.1	.7
5	7	2.7	3.6	.9
6	8	3.3	3.3	.0
		Vocabulary		
1	32	-	1.3	-
2	23	1.3	1.9	.6
3	8	1.2	2.3	1.1
4	12	2.5	2.8	.3
5	7	2.9	3.4	.5
6	8	2.9	3.7	.8

Note. Gains at Grade 1 could not be calculated because at this grade level there is no pretest on the ITBS.

The MSSP involved over 7,200 eligible students. Two MSSP Resource Teachers provided assistance to each school's IRT and also to classroom teachers. IRTs retained responsibility for coordinating the entire Title-I effort at each campus.

MSSP personnel were in place at the start of the school year. Materials were in ample supply early. Unscheduled classroom observations found MSSP in use in half of the classes; however, it was being provided to all students in classes regardless of Title-I eligibility.

A sample of MSSP students was pretested and posttested with the criterion-referenced instrument. Pretests were given early in November, 1978, and posttests in early May, 1979. Average pretest and posttest scores are shown in Table 13. High pretest scores for students in kindergarten and first grade indicate that these tests may be too easy. The results show a gain from pretest to posttest except in the fourth grade where a loss occurred. Largest gains were in first and second grades.

The sample was also used to assess the progress of individual students in the MSSP according to the objective. Kindergarten and first-grade students came closest to the objective with 64% making at least a 25% gain (or a perfect score) and with 20% and 18%, respectively, gaining at least 10% (or making a perfect score).

Supplemental Mathematics Program. Andrews reported on the evaluation of the Supplemental Mathematics Program (SMP) (TI79-345-32-02). The SMP was designed to be an individualized supplement to the DISD baseline mathematics program for eligible students who had deficiencies in mathematics.

Table 13

Pretest and Posttest Scores on the MSSP Criterion-Referenced Mastery Test for Matched Sample

Grade	Number of Test Items	Number of Students	Mean Raw Score	Standard Deviation	% Correct for Mean
Pretest					
K	19	66	14.9	3.3	78.4
1	15	84	9.5	3.2	63.3
2	14	89	6.1	3.6	43.6
3	18	135	8.7	2.6	48.3
4	25	32	11.7	5.1	46.8
5	25	92	7.9	3.1	31.6
6	25	91	11.6	4.7	46.4
Posttest					
K	19	66	17.7	1.8	93.2
1	15	84	12.3	2.5	82.0
2	14	49	9.3	3.4	66.4
3	18	135	10.0	2.6	55.6
4	25	52	10.2	4.1	40.8
5	25	92	9.4	3.5	37.5
6	25	91	12.6	3.9	50.4

A total of 8,766 students received SMP services in 19 Title-I schools in the Subdistrict. Process evaluation indicated that the SMP was implemented in all eligible schools and that all schools had at least two kinds of supplemental materials for use with eligible students.

SMP achievement in kindergarten was monitored by the DISD Diagnostic Mathematics Test which measures baseline objectives. There were 19 mathematics baseline objectives for kindergarten students to master. Almost half of the students mastered 14 or more of the 19 objectives; almost 85% mastered 9 or more. Although the stated objective of mastery of 75% of the objectives by 80% of the students was not met, it was felt by the evaluator that, since the objective was not determined empirically from past students' performance, it was likely set too high in optimism. The median number of objectives completed by the 992 students was 13.

Kindergarten SMP students were also compared to the similar group from 1977-78 using MRT Total Battery scores. The decile distributions for the two groups were similar.

SMP achievement in first through sixth grades was measured by the mathematics section of the ITBS. Performance on the ITBS was compared to the objectives set by program management and also to the performance of SMP students in 1977-78. Table 14 contains the program objective and Table 15 presents the gain distributions from the two years.

Although the SMP objectives were not completely attained in any grade, 1978-79 SMP student achievement was greatly improved over the comparison group of 1977-78 SMP students. In the fifth and sixth grades a smaller percentage of 1978-79 SMP students showed no gain on the ITBS

Table 14

EOC Supplemental Mathematics Program
Objective for Grades 1-6
Expected Grade-Equivalent Score Gains
From Spring 1978 to Spring 1979

	Gain			
	0.0 Years or Less	At Least .1 Years	At Least .5 Years	At Least 1.0 Years
Percentage in Category	0.0	100.0	100.0	80.0

Table 15

EOC Title-I Student Gain Distribution (in Percents)
on the ITBS Mathematics Total
Actual Grade-Equivalent Score Gains from
Spring 1978 to Spring 1979

		Gain[a]				
Grade	Year	0.0 Years or Less	At Least .1 Years	At Least .5 Years	At Least 1.0 Years	N
1	1978-79	3.3%	96.7%	82.6%	56.1%	1146
	1977-78	2.2	97.8	76.4	44.6	1013
2	1978-79	9.6	90.4	78.0	48.0	764
	1977-78	13.1	86.9	65.5	28.4	795
3	1978-79	9.3	90.8	77.0	52.2	1275
	1977-78	10.8	89.2	69.7	33.6	1031
4	1978-79	20.6	79.4	61.8	35.7	1213
	1977-78	24.2	75.8	55.4	26.1	854
5	1978-79	16.1	83.9	64.9	39.2	1094
	1977-78	22.8	75.4	51.7	24.6	923
6	1978-79	13.0	87.0	74.6	49.8	1248
	1977-78	22.6	77.4	54.0	26.2	982

[a] Gains above 0.0 are cumulative. Gains at Grade 1 are determined by arbitrarily assigning a pretest score of .6. Progress is shown by the 0.0 category decreasing relative to last year's percentage; for the other categories an increase is the goal.

and a much larger percentage demonstrated month-per-month gains than the group of students from 1977-78. First- through fourth-grade students also showed a definite increase in the percentage demonstrating month-per-month gains.

Table 16 shows pretest and posttest ITBS mathematics grade-equivalent scores by grade for 1977-78 and 1978-79. An increase in the number (n) of students served by SMP is apparent. Mean posttest scores for the 1978-79 program are higher than those for the previous year although the scores still indicate serious educational deprivation. Standard deviations (S.D.) among the cells are consistent. The table indicates the success of the 1978-79 SMP students compared to the group a year before them.

Mathematics scores from the ITBS were also used to assess the impact of the Computer-Assisted Instruction (CAI) operating at Maynard Jackson school. There were 446 students eligible for SMP; matched pretest and posttest scores were available for 345 (77%) of the eligible students. Table 17 shows CAI student gains. Comparing Table 17 to Table 15 reveals that a smaller percentage of SMP students at Jackson made no grade-equivalent gain on the ITBS than the general SMP population. Also, fourth-grade performance at Jackson was considerably better than that of SMP students generally.

Table 18 compares the grade-equivalent gains made at Jackson by SMP students in 1978-79 to gains made by a similar group in 1977-78 and also to all SMP students from the two years. Although the fourth-grade SMP students at Maynard Jackson who used the CAI equipment made smaller gains in 1978-79 than the year before, the performance was still above the whole group of SMP participants. A similar pattern existed at the fifth

Table 16

Mean Pretest and Posttest Scores by Grade for ECC Title-I Mathematics Students

			Grades					
			1	2	3	4	5	6
1978-79	Pre	Mean	-	1.3	1.9	2.6	3.0	3.4
		S.D.	-	.5	.5	.6	.7	.9
		n	-	764	1275	1213	1094	1248
	Post	Mean	1.6	2.1	2.8	3.2	3.6	4.3
		S.D.	.6	.7	.8	.9	1.0	1.1
		n	1146	764	1275	1213	1094	1248
1977-78	Pre	Mean	-	1.3	2.0	2.6	2.9	3.4
		S.D.	-	.6	.6	.7	.7	.9
		n	-	795	1031	854	923	982
	Post	Mean	1.5	1.9	2.6	3.1	3.4	4.0
		S.D.	.6	.6	.7	.8	1.0	1.0
		n	1013	795	1031	854	923	982

Note. 1978-79: pretest in April 1978 and posttest in April 1979

1977-78: pretest in April 1977 and posttest in April 1978

Table 17

Maynard Jackson Title-I Student Gain Distribution
(in Percents) on the ITBS
Mathematics Total: Grade-Equivalent Score Gains
from Spring 1978 to Spring 1979

Grade	Gain 0.0 Years or Less	At Least .1 Years	At Least .5 Years	At Least 1.0 Years	N
4	6.7	93.3	81.5	53.3	135
5	6.8	93.2	73.8	40.8	103
6	8.4	91.6	78.5	54.2	107

Table 18

Achievement Gains of all SMP Participants and Participants at Maynard Jackson as Measured by the Mathematics Total of the ITBS, 1977-78 and 1978-79

Grade	Year	N	Grade Equivalent Pretest Average	Grade Equivalent Posttest Average	Grade Equivalent Average Gain
			SMP Participants		
4	1978-79	1213	2.6	3.2	0.6
	1977-78	854	2.6	3.1	0.5
5	1978-79	1094	3.0	3.6	0.6
	1977-78	923	2.9	3.4	0.5
6	1978-79	1248	3.4	4.3	0.9
	1977-78	982	3.4	4.0	0.6
			SMP Participants at Maynard Jackson (CAI Instruction)		
4	1978-79	135	2.5	3.4	0.9
	1977-78	33	2.4	3.6	1.2
5	1978-79	103	3.1	3.9	0.8
	1977-78	32	3.2	4.1	0.9
6	1978-79	107	3.6	4.5	0.9
	1977-78	61	3.6	4.5	0.9

grade. While the presence of a Vanguard instructional approach at Jackson confounds the results of the Title-I program, fourth- and fifth-grade achievement there does suggest that the CAI system is beneficial to students making the transition from primary to intermediate schools.

East Oak Cliff Supplemental Reading/Language Arts Program. Andrews (TI79-345-31-01) reported on the evaluation of the East Oak Cliff Supplemental Reading/Language Arts Program (SR/LAP) for 1978-79. The SR/LAP was designed to provide supplemental reading instruction and reinforcement in addition to, and correlated with, the baseline curriculum for eligible Title-I students in 19 East Oak Cliff Subdistrict schools.

The academic objectives for the SR/LAP called for 80% of the kindergarten students to demonstrate mastery of 75% or more of the DISD baseline reading objectives; the remaining 20% of SR/LAP kindergarten students were to master 50% or more. Further, SR/LAP students in grades one through six were to demonstrate achievement on the ITBS; 80% of the students were to gain 1.0 month of achievement (grade-equivalent score) or more for each month of instruction. The remaining 20% were to make .5 months or more per month of instruction.

The SR/LAP was in 19 Title-I schools in the East Oak Cliff Subdistrict. A total of 8,351 students received SR/LAP services. Each campus had one IRT and one or two RDTs to provide supplementary instruction. A total of 68 reading paraprofessionals were assigned among the campuses. Additionally, the 14 schools with kindergartens each had from 1 to 3 of 26 kindergarten aides who were to devote half of their time to assist with reading instruction. At Jackson, a CAI aide was to devote half time to SR/LAP.

Implementation of the SR/LAP was assessed in the schools not involved in the Campus Level Planning Project (CLPP). Only one IRT reported any delay in SR/LAP start-up; that was due to late arrival of materials. All IRTs and all but one RDT were in place at the beginning of the school year. The missing RDT was assigned in November. Positions for two reading aides and one kindergarten aide were unfilled at the beginning of the year but were filled later.

SR/LAP achievement in kindergarten was measured by the DISD Test of Essential Reading Skills (TERS) and Test of Essential Writing Skills. Tables 19 and 20 show the analyses. In reading almost 75% of the SR/LAP students mastered 6 or more of the 11 objectives and almost 40% mastered 9 or more. Performance on the writing objectives was very good; over 90% of the SR/LAP students mastered 3 or more of the 6 objectives and almost half mastered 100% of the objectives. Although the program goal of 80% of the students mastering 75% of the objectives and all students mastering at least 50% was not met, the performance of the SR/LAP kindergarten students was encouraging. Since the goal was not set empirically based on known past performance, it was felt by the evaluator to have been set optimistically high.

Spring, 1979, and Spring, 1978, scores from the MRT were also compared to assess the performance of kindergarten students in the SR/LAP. MRT Total Battery percentile score distributions and MRT Pre-Reading Subtest percentile score distributions for the two years were

Table 19

Number and Percent of ECC Title-I Kindergarten Students Completing Reading Mastery Objectives

Number of Objectives Completed	Number of Students	Percent of Students	Cumulative Percent
11	172	17.7	17.7
10	76	7.8	25.5
9	118	12.1	37.6
8	127	13.1	50.7
7	122	12.5	63.2
6	100	10.3	73.5
5	91	9.4	82.8
4	53	5.4	88.3
3	45	4.6	92.9
2	40	4.1	97.0
1	20	2.1	99.1
0	9	0.9	100.0
Total	973	100.0	

Table 20

Number and Percent of ECC Title-I Kindergarten Students Completing Writing Mastery Objectives

Number of Objectives Completed	Number of Students	Percent of Students	Cumulative Percent
6	464	47.3	47.3
5	192	19.6	66.9
4	167	17.0	84.0
3	90	9.2	93.2
2	37	3.8	96.9
1	22	2.2	99.2
0	8	0.8	100.0
Total	980	100.0	

both compared. When the two scores were compared to like scores from the previous year, the distributions of the two were almost identical. In both distributions over 70% of the students scored below the 50th percentile.

SR/LAP students' performance on the Reading Comprehension and Vocabulary Subtests of the ITBS were the basis for evaluating the program in grades one through six. Results from the 1978-79 SR/LAP were compared to like scores from the previous year, and the distributions of the two were found to be almost identical. Over 70% of the students scored below the 50th percentile in each distribution.

ITBS scores were also compared to objectives set by program management. Table 21 shows the SR/LAP objective and Tables 22 and 23 show distributions of ITBS grade-equivalent gains in reading comprehension and vocabulary, respectively. The SR/LAP objective was for 80% of the students to make at least a 1.0 month achievement gain for each month of instruction. Although the SR/LAP objectives were not met in any grade on either test, the results were encouraging since gains per month of instruction were higher in 1978-79 than they were in 1977-78. Second-grade reading comprehension gains for 1978-79 equaled the very high gains of the year before. First-, fourth-, fifth-, and sixth-grade students all showed an upward shift in the gains distribution over the previous year. Third-grade students showed the greatest improvement. On the Vocabulary Subtest, all grades registered gains over last year's SR/LAP performance.

Table 21

EOC Supplemental Reading/Language Arts Program Objectives for Grades 1-6

	Gain			
Percentage in Category	0.0 or less	At Least .1	At Least .5	At Least 1.0
	0.0	100.0	100.0	80

Table 22

EOC Title-I Student Grade Equivalent Score Gain Distribution (in Percentages) Per Month Instruction on the ITBS Reading Comprehension Subtest for 1978-79 and 1977-78

		Gain[a]				
Grade	Year	0.0 or Less	At Least .1	At Least .5	At Least 1.0	N
1	1978-79	2.6	97.4	90.5	58.2	1179
	1977-78	4.0	96.0	84.2	44.6	988
2	1978-79	15.0	85.0	70.1	49.0	833
	1977-78	14.2	85.8	70.3	47.5	824
3	1978-79	22.6	77.4	56.4	32.9	910
	1977-78	30.2	69.8	40.9	16.2	801
4	1978-79	23.0	77.0	60.0	37.2	1150
	1977-78	25.3	74.7	55.1	31.2	855
5	1978-79	25.0	75.0	60.8	40.5	1152
	1977-78	29.3	70.7	53.6	29.4	899
6	1978-79	23.0	77.0	65.0	45.7	1212
	1977-78	26.0	74.0	53.5	27.2	891

[a] Gains above 0.0 are cumulative. Gains at Grade 1 were determined by arbitrarily assigning a pretest score of 0.6. Progress was shown by the 0.0 category decreasing relative to last year's percentage; for the other categories an increase was the goal.

Table 23

EOC Title-I Student Grade Equivalent Score Gain Distribution (in Percentages) Per Month Instruction on the ITBS Reading Vocabulary Subtest for 1978-79 and 1977-78

		Gain[a]				
Grade	Year	0.0 or Less	At Least .1	At Least .5	At Least 1.0	N
1	1978-79	5.9	94.1	69.5	36.4	1168
	1977-78	6.1	93.9	61.9	31.3	993
2	1978-79	14.0	86.0	69.6	53.1	829
	1977-78	21.4	78.6	60.0	33.6	824
3	1978-79	17.0	83.0	67.2	43.1	906
	1977-78	17.8	82.2	60.4	30.1	798
4	1978-79	28.8	71.2	52.7	32.0	1147
	1977-78	32.1	67.9	46.5	22.5	850
5	1978-79	28.9	71.1	53.1	33.8	1148
	1977-78	31.8	68.2	48.7	26.7	896
6	1978-79	22.9	77.1	65.1	48.8	1210
	1977-78	26.4	73.6	52.9	26.7	887

[a] Gains above 0.0 are cumulative. Gains at Grade 1 were determined by arbitrarily assigning a pretest score of 0.6. Progress was shown by the 0.0 category decreasing relative to last year's percentage; for the other categories an increase was the goal.

Tables 24 and 25 show mean pretest and posttest scores by grade for all SR/LAP students from 1977-78 and 1978-79 in reading comprehension and vocabulary, respectively. Mean pretest scores were essentially the same for the two years. A comparison of the gains produced by the SR/LAP during the two different years reflects a more successful program during the 1978-79 school year.

The CAI at Maynard Jackson Vanguard school was also assessed using reading comprehension and vocabulary grade-equivalent scores from the ITBS. There were 441 SR/LAP students at Jackson although not all students had matched pretest and posttest scores. Tables 26 and 27 show an analysis of the CAI system at Jackson, comparing the reading comprehension and vocabulary scores to previous years and to the performance of the entire SR/LAP group. During the 1978-79 school year the CAI students outperformed the general SR/LAP population in reading comprehension. On the Vocabulary Subtest, fourth- and fifth-grade CAI students made larger gains than the SR/LAP population. Fourth-grade CAI students in 1978-79 made larger average gains on both subtests than did similar students in 1977-78. Sixth-grade CAI sudents in 1978-79 made larger gains on the Vocabulary Subtest than did comparable students in 1977-78.

Community Involvement Program. The Community Involvement Program (CIP) was the subject of a report by Rutherford and Andrews (T179-349-31-11). While this report provided information about the District-wide Community Involvement Program, special consideration was given to the operation of the CIP in the East Oak Cliff Subdistrict.

This program was implemented as designed in the Subdistrict. The ten Community Involvement Specialists in the Subdistrict conducted a total of

Table 24

Mean Pretest and Posttest Scores by Grade
for EDC Title-I SR/LAP Students on the
Reading Comprehension Subtest

			Grade					
			1	2	3	4	5	6
1978-79	Pre	Mean	-	1.4	1.9	2.4	2.9	3.3
		S.D.	-	.6	.8	.7	.8	1.0
		n	-	833	910	1150	1152	1212
	Post	Mean	1.9	2.2	2.5	3.0	3.5	4.0
		S.D.	3.2	.8	.8	.8	1.1	1.3
		n	1179	833	910	1150	1152	1212
1977-78	Pre	Mean	-	1.3	2.0	2.5	2.9	3.4
		S.D.	-	.7	.8	.8	.9	1.0
		n	-	824	801	855	899	891
	Post	Mean	1.6	2.2	2.3	3.0	3.4	3.9
		S.D.	.7	.9	.7	.9	1.2	1.2
		n	988	824	801	855	899	891

Note. 1978-79: pretest in April 1978 and posttest in April 1979

1977-78: pretest in April 1977 and posttest in April 1978

Table 25

Mean Pretest and Posttest Scores by Grade for EOC Title-I SR/IAP Students on the Vocabulary Subtest

			Grade					
			1	2	3	4	5	6
1978-79	Pre	Mean	-	1.3	1.8	2.6	2.9	3.3
		S.D.	-	.6	.7	.9	.9	1.0
		n	-	829	906	1147	1148	1210
	Post	Mean	1.4	2.2	2.6	3.0	3.4	4.2
		S.D.	.7	.9	1.0	.9	1.1	1.5
		n	1168	829	906	1147	1148	1210
1977-78	Pre	Mean	-	1.3	1.8	2.6	2.9	3.4
		S.D.	-	.7	.8	1.0	.9	1.1
		n	-	824	798	850	896	887
	Post	Mean	1.4	2.0	2.4	3.0	3.4	3.9
		S.D.	.8	.8	.9	.9	1.1	1.2
		n	993	824	798	850	896	887

Note. 1978-79: pretest in April 1978 and posttest in April 1979

1977-78: pretest in April 1977 and posttest in April 1978

Table 26

Achievement Gains of All SR/LAP Participants
and SR/LAP Participants at Maynard Jackson
as Measured by the Reading Comprehension
Subtest of the ITBS, 1977-78 and
1978-79

Grade	Year	N	Grade Equivalent Pretest Average	Grade Equivalent Posttest Average	Grade Equivalent Average Gain
All SR/LAP Participants					
4	1978-79	1150	2.4	3.0	.6
	1977-78	855	2.5	3.0	.5
5	1978-79	1152	2.9	3.5	.6
	1977-78	899	2.9	3.4	.5
6	1978-79	1212	3.3	4.0	.7
	1977-78	891	3.4	3.9	.5
SR/LAP Participants at Maynard Jackson					
4	1978-79	127	2.4	3.2	.8
	1977-78	46	2.8	3.4	.6
5	1978-79	115	3.0	3.8	.8
	1977-78	58	3.1	3.9	.8
6	1978-79	99	3.4	4.2	.8
	1977-78	68	3.4	4.3	.9

Table 27

Achievment Gains of All SR/LAP Participants and SR/LAP Participants at Maynard Jackson as Measured by the Vocabulary Subtest of the ITBS, 1977-78 and 1978-79

Grade	Year	N	Grade Equivalent Pretest Average	Grade Equivalent Posttest Average	Grade Equivalent Average Gain
All SR/LAP Participants					
4	1978-79	1147	2.6	3.0	.4
	1977-78	850	2.6	3.0	.4
5	1978-79	1148	2.9	3.4	.5
	1977-78	896	2.9	3.4	.5
6	1978-79	1210	3.3	4.2	.9
	1977-78	887	3.4	3.9	.5
SR/LAP Participants at Maynard Jackson					
4	1978-79	128	2.5	3.1	.6
	1977-78	46	2.9	3.2	.3
5	1978-79	115	2.9	3.6	.7
	1977-78	58	2.9	3.7	.8
6	1978-79	99	3.3	4.1	.8
	1977-78	68	3.6	4.1	.5

116 Parent Advisory Committee (PAC) meetings with a total of 1,325 parents in attendance. These specialists worked with Title-I program staff to provide 36 parenting workshops and/or activities which a total of 716 parents attended.

Another function of the community specialists was to follow up on referrals from Title-I teachers and personnel. A total of 4,485 referrals were received, 3,066 (68%) of which were related to attendance. A total of 8,922 home visits were made on these referrals for an average of 2.0 home visits per referral. Home school liaison/paraprofessionals received 2,143 referrals, 1,588 (73%) of which were attendance-related. The home school liaison/paraprofessionals made in total of 4,555 home visits for an average of 2.1 home visits per referral.

Another part of the CIP dealt with reducing the number of absences by student by 25% over the previous year's absences. In the Subdistrict, 355 students were randomly selected from the files of community specialists. Attendance for these students dropped from approximately 75% during the first and second six-weeks periods to around 70% during the third six weeks period. The fourth and fifth six-weeks periods showed attendance rates of 75% and 79%, respectively. The large number of inclement weather days during the third six-weeks period may have affected the attendance during that period.

Between 242 and 266 students were selected for comparison with the previous year's attendance. Table 28 indicates that between 56.7% and 66.3% of the students sampled achieved the goal of 25% reduction in number of days absent during 1978-79.

Table 28

Percentage of Students Achieving Goal of
of Reduction in Daily Absences, 1978-79
EOC Subdistrict

Six-Weeks Period	Number of Students Sampled	Goal[a] (In Days)	Percent of Students Achieving Goal
August 28 - October 6, 1978	242	3	65.3
October 9 - November 21, 1978	264	3	66.3
November 22, 1978 - January 19, 1979	214	4	63.6
January 22 - March 2, 1979	245	4	56.7
March 5 - April 13, 1979	266	3	60.5

[a] Goal was computed by subtracting the mean number of days absent in 1978-79 from the mean number of days absent in 1977-78 and taking 25% of the total.

Emergency School Aid Act Pilot Project

The evaluation of the Emergency School Aid Act Pilot Project (ESAA Pilot) was the subject of a report by Melican and Miller (EE79-315-31-20). This project was implemented to improve the reading and oral language skills of students in grades 4 through 12 and the mathematics skills of students in grades 4 through 6 who were functioning two or more years below grade placement.

The reading program was implemented by November, 1978. The delays in implementation were caused by a shortage of personnel. The mathematics program in the ten intermediate (4-6) schools was not fully implemented because of a shortage of mathematics teachers. Mathematics teacher aides were employed, however, and worked in the classroom under the supervision of Title-I Instructional Resource Teachers and regular classroom teachers. For this reason, the mathematics program was not evaluated.

The achievement for students in the reading program was monitored by use of the Gates-MacGinitie Reading Tests and the Iowa Tests of Basic Skills (ITBS), for students in grades 4 through 8; and the Iowa Tests of Educational Development (ITED) for grades 9 through 12. Two types of analyses were conducted: (1) gains from pre- to posttest and (2) comparisons between actual posttest scores and projected posttest scores which were based upon the student's pretest score and grade placement at the time of pretest.

Tables 29 through 33 present the results of the data analyses. Tables 29 and 30 indicate students in grades 4-11 made significant pre- to posttest gains in vocabulary on the Gates-MacGinitie, as did students

Table 29

Descriptive Statistics for Grade Equivalent Scores on the Vocabulary and Reading Comprehension Tests of the Gates-MacGinitie Reading Tests

Grade	N[a]	Pretest Mean Grade Equivalent	Pretest S.D.	Posttest Mean Grade Equivalent	Posttest S.D.	Gain Mean Grade Equivalent	Gain S.D.	t-statistic
Vocabulary								
4	166	2.3	.85	2.5	.99	0.2	.69	4.38*
5	275	2.6	1.03	2.9	1.12	0.3	.74	6.85*
6	236	3.3	1.36	3.5	1.51	0.2	.86	3.92*
Reading Comprehension								
4	166	2.0	.85	2.3	.93	0.3	1.02	3.34*
5	275	2.4	.90	2.6	.99	0.2	.85	4.13*
6	236	3.0	1.41	3.4	1.63	0.4	1.12	5.88*

Note 1. The pretest was administered in the spring, 1978 and posttest was administered in the spring, 1979 .

Note 2. The differences between pretest and posttest means may not be exactly equal to the gains due to rounding.

*$p < .05$ using a one-tail matched pairs t-test.

[a] N represents the number of students who had both a pretest and a posttest score.

Table 30

Descriptive Statistics for Grade Equivalent Score on the Vocabulary and Reading Comprehension Tests of the Gates-MacGinitie Reading Tests

Grade	N	Pretest		Posttest		Gain		t-statistic
		Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	
				Vocabulary				
7	497	3.8	1.40	4.3	1.55	0.5	1.01	10.18*
8	42	3.8	1.49	4.3	1.58	0.5	.70	4.25*
9	47	4.7	1.45	5.1	1.56	0.4	1.33	2.09*
10	18	2.4	.62	2.8	.45	0.3	.68	1.99*
11	11	2.3	.77	3.1	1.16	0.8	1.29	2.16*
12	insufficient data							
				Reading Comprehension				
7	497	3.4	1.47	4.8	1.80	1.3	1.67	17.50*
8	42	3.5	1.50	4.8	2.35	1.3	1.63	5.31*
9	47	4.5	1.66	5.6	2.31	1.1	1.76	4.30*
10	18	2.6	.38	2.7	.92	0.1	.87	.35
11	11	2.9	.58	2.6	.38	– 0.3	.57	– 1.59
12	insufficient data							

* $p < .05$ using a one-tail matched pairs t-test.

Table 31

Descriptive Statistics for Grade Equivalent Scores on the Vocabulary and Reading Comprehension Tests of the Iowa Tests of Basic Skills for the EOC 4-6 Schools

		Pretest		Posttest		Gain		
Grade	N	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	t-statistic
				Vocabulary				
4	331	2.3	0.96	2.8	0.97	0.5	0.90	10.03*
5	408	2.8	0.98	3.2	1.09	0.4	0.89	9.70*
6	355	3.3	1.15	4.0	1.49	0.7	1.17	10.49*
				Reading Comprehension				
4	331	2.2	0.77	2.9	0.92	0.7	0.78	16.25*
5	408	2.7	0.90	3.3	1.00	0.6	0.94	13.98*
6	355	3.1	1.19	3.9	1.33	0.8	1.04	13.62*

* $p < .05$ using a one-tail matched-pairs t-test.

Table 32

Descriptive Statistics for Grade Equivalent Scores on the Vocabulary and Reading Comprehension Tests of the Iowa Tests of Basic Skills for the EOC 7-8 Schools

		Pretest		Posttest		Gain		
Grade	N	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	t-statistic
				Vocabulary				
7	793	3.5	1.11	4.2	1.34	0.7	0.98	19.30*
8	363	3.8	1.21	4.8	1.64	1.0	1.11	17.89*
				Reading Comprehension				
7	793	3.5	1.10	4.3	1.22	0.8	0.91	25.80*
8	363	3.8	1.24	4.7	1.24	0.9	1.10	15.71*

* $p < .05$ using a one-tail matched pairs t-test.

Table 53

Description of Pretest and Posttest Raw Scores on the Iowa Tests of Educational Development, Reading Comprehension and Vocabulary Subtests

Grade	N	Pretest Raw Score Mean	Pretest Raw Score S.D.	Pretest Associated Percentile	Posttest Raw Score Mean	Posttest Raw Score S.D.	Posttest Associated Percentile	Difference Raw Score Mean	Difference Raw Score S.D.	t-statistic
					Reading Comprehension					
9[a]	209	N/A	N/A	N/A	11.2	4.82	12	N/A	N/A	N/A
10	68	12.5	6.63	12	12.4	5.68	12	-0.1	7.54	$-.14^{n.s.}$
11	49	11.9	5.98	6	11.7	5.14	6	-0.2	7.35	$-.21^{n.s.}$
12[b]	-	-	-	-	-	-	-	-	-	-
					Vocabulary					
9[a]	209	N/A	N/A	N/A	6.8	3.21	16	N/A	N/A	N/A
10	68	8.1	5.06	16	8.1	3.78	16	0	5.54	$-.02^{n.s.}$
11	49	7.6	3.64	9	8.0	3.39	10	0.4	4.51	$.70^{n.s.}$
12[b]	-	-	-	-	-	-	-	-	-	-

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[*] Non Significant.

[a] Ninth grade students did not take ITED in 1977-78.

[b] There were not enough twelfth grade students with both pretest and posttest confirmation to perform an analysis.

in grades 4-9 in reading comprehension (Tables 29-30). These gains were substantiated on the ITBS Reading and Vocabulary Subtests for grades 4-8 (Tables 31-32). The gains for grades 10 and 11 in vocabulary were not substantiated on the ITED (Table 33). Comparisons on the ITED were not made for ninth-grade students because of incompatible pretests (ITBS). Comparisons for twelfth-grade students were not made because of insufficient data.

Tables 34 and 35 present the results of the comparisons between actual and projected posttest scores on the Gates-MacGinitie Reading Tests. The results of the actual posttest versus projected posttest analyses can be divided into three kinds. The first involves the nonsignificant differences. In nine cases the differences between the actual posttest mean grade equivalent score and the projected posttest mean grade equivalent score were not statistically significant (grades 5, 7, 8, 9, 10 and 11 on the Vocabulary Subtest and grades 4, 6 and 10 on the Reading Comprehension Subtest.) It should be noted that the projected scores are derived under the assumption that the students will continue to grow at the same rate as before. This is a slightly stringent assumption for remedial students who tend to gain at a slower rate as time progresses. Therefore, nonsignificant differences should not be viewed as negative programmatic results.

Second, in four cases the differences were significant and negative. The actual posttest mean was significantly below the projected posttest mean for grades 4 and 6 on the Vocabulary Test and for grades 5 and 11 on the Reading Comprehension Test. In these cases the students did not perform as well as projected.

Table 34

Comparison Between Projected Posttest and Actual Posttest Scores on the Gates-MacGinitie Reading Tests

		Posttest		Projected Posttest		Difference[a]		
Grade	N	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	t-statistic
				Vocabulary				
4	166	2.5	.99	2.6	.99	-0.1	.72	-2.54^{*}
5	275	2.9	1.12	3.0	1.16	-0.1	.78	$-1.02^{n.s.}$
6	236	3.5	1.51	3.7	1.52	-0.2	.89	-2.67^{*}
				Reading Comprehension				
4	166	2.3	.93	2.3	.99	-0.1	1.10	$- .81^{n.s.}$
5	275	2.6	.99	2.7	1.02	-0.1	.89	-2.12^{*}
6	236	3.4	1.63	3.3	1.57	+0.1	1.16	$+1.22^{n.s.}$

n.s.: Not significant.

* p <.05 using a two-tailed matched-pairs t-test.

[a] Difference is posttest minus projected posttest.

Table 35

Comparison Between Projected Posttest and Actual Posttest Scores on the Gates-MacGinitie Reading Tests

		Posttest		Projected Posttest		Difference[a]		
Grade	N	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	Mean Grade Equivalent	S.D.	t-Statistic
				Vocabulary				
7	497	4.3	1.55	4.2	1.53	0.1	1.04	1.82$^{n.s.}$
8	42	4.3	1.58	4.1	1.62	0.1	.72	1.20$^{n.s.}$
9	47	5.1	1.56	5.1	1.56	0.0	1.37	.22$^{n.s.}$
10	18	2.8	.45	2.6	.66	0.2	.72	.91$^{n.s.}$
11	11	3.1	1.16	2.4	.82	0.7	1.30	1.76$^{n.s.}$
12	insufficient data							
				Reading Comprehension				
7	497	4.8	1.80	3.8	1.61	1.0	1.73	12.63*
8	42	4.8	2.35	3.8	1.62	1.0	1.62	4.16*
9	47	5.6	2.31	4.8	1.78	0.8	1.78	2.94*
10	18	2.7	.92	2.8	.40	-0.1	.87	- .52$^{n.s.}$
11	11	2.6	.38	3.0	.62	-0.4	.60	- 2.51*
12	insufficient data							

---

* p <.05 using a two-tail matched-pairs t-test.

[a] Difference means posttest minus projected posttest.

Finally, in three cases (grades 7, 8 and 9) on the Reading Comprehension Test the actual posttest mean was significantly higher than the projected. These results are truly indicative of positive changes in the students.

Students in grades 7-12 were administered the Life Skills section of the Survey Test of Applied Reading Skills (STARS). Descriptive statistics for the number of objectives mastered on the Life Skills Subtest of the STARS for grades 7-8 are presented in Table 36. The results for grades 9-12 are not reported because the data collected were inaccurate. The reason may be that the resource teachers for grades 9-12 may have reported the number of items answered correctly and not the number of Life Skills objectives mastered. An analysis of the number of items would not indicate the number of objectives mastered. On the average, 7th and 8th graders mastered 1.29 and 2.95 more objectives on the posttest than on the pretest during the 1978-79 school year. These gains were statistically significant.

The BOAT was administered to students in grades 6 and 8-12. Descriptive statistics for the BOAT are presented in Table 37. Sixth-grade students answered 59.6% of the items on the reading tests correctly. Eighth-grade students answered approximately 49% correctly, ninth-grade students answered 51% correctly, tenth-grade students answered approximately 50% correctly, eleventh-grade students answered 44% correctly and the twelfth-grade students answered approximately 51% of the items correctly.

Two staff development programs were implemented as a part of the ESAA Pilot project; one for personnel involved in the program in the ESAA

Table 36

Descriptive Statistics for the Number of Objectives Mastered on the Life Skills Subject of the Survey Test of Applied Reading Skills

Grade	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	t-statistic
7	204	2.8	2.58	4.1	2.67	1.3	2.63	7.03*
8	41	2.9	3.17	5.8	2.72	2.9	3.08	6.13*

*p less than .05 using a one-tail matched-pairs t-test.

Note. The pretest was administered in the fall of 1978 and the posttest was given in the spring of 1979.

Table 37

Description of the Percentage of Items Answered Correctly on the Basic Objectives Assessment Tests

Grade	N	Mean	S.D.
6*	383	59.6	21.59
8	366	48.8	15.62
9	178	51.0	17.22
10	58	49.6	18.64
11	51	44.3	17.07
12	21	51.1	22.57

*Sixth-grade percentage is for the reading test. The eighth- through twelfth-grade percentage is for the total test.

Pilot schools and one for the personnel of the three Individually Guided Education Schools. In both programs continuous staff development was accomplished through sessions conducted throughout the school year.

Summary of Specially Funded Programs Reports

Information reported in this section indicates that the Title-I and ESAA Pilot programs are playing an important part in the improvement of education in the Subdistrict. Specifically, the following positive evaluation results can be listed.

1. Student achievement in the Supplemental Mathematics Program was greatly improved in 1978-79 over achievement in 1977-78.
2. Student achievement in the Supplemental Reading/Language Arts Program was improved in 1978-79 over 1977-78.
3. The use of Computer-Assisted Instruction (CAI) at Maynard Jackson indicated that the CAI approach benefitted students in making the transition from primary to intermediate schools, in both reading and mathematics.
4. The Community Involvement Program in East Oak Cliff was active in involving parents and community members in the education of their children and in decreasing student absences.
5. The ESAA Pilot Project was successful in raising the achievement of participating students in nearly every grade. It was least successful in grades 10-11.
6. The personnel development programs for administrators, teachers, paraprofessionals, and parents helped to improve the quality of education in the Subdistrict.

Conclusions and Comments

The mission of the East Oak Cliff Subdistrict during the 1978-79 school year was to develop and implement a comprehensive and responsive educational program for the students. This mandated that the

Subdistrict accept the responsibility to provide a system of education that would increase the quantity of student learning as well as the quality of adult and student interaction.

The extent to which the mission was accomplished is reflected in this interpretative analysis. The reader is referred to the summary in each major section of this document.

The results of the longitudinal analyses, both quasi-longitudinal and cohort-longitudinal, indicate that the quantity of student learning is indeed increasing. Furthermore, the gains in achievement reported in the 1977-78 school year appear to be of the same magnitude in the 1978-79 school year. However, this was true only for grades K-8. It should be realized also that the overall performance remained below norm above the third grade.

Both the personnel development efforts sponsored under Title-I and ESAA have impacted the quantity of adult-student interaction.

The Title-I Community Involvement Program, through its community involvement efforts, appeared to have increased the visibility of the East Oak Cliff Subdistrict's educational programs and demonstrated the concern of staff and personnel for the welfare of the children.

In conclusion, the Subdistrict seems to have progressed substantially in its efforts to meet the needs of the EOC student population.

References

IR79-006-34-30 Whitmore, Susan J., Meier, James A., and Olson, George H. *Norm-Referenced Performance Profiles 1978-79: East Oak Cliff Subdistrict*.

IR79-007-34-30 Meier, James A., and Eberhart, Charlotte J. *Quasi-Longitudinal Achievement Trends 1973-79*.

IR79-008-34-30 Meier, James., and Eberhart, Charlotte J. *Cohort-Longitudinal Achievement Trends 1976-79*

IR79-020-31-10 Marcus, Mary McIntosh, and Julian, Ellen R. *1978 Graduate Follow-Up Survey*.

IR79-088-31-05 Sheehan, Daniel S., and Berry, Christine E. *Enrollment Projections for 1979-83*.

IR79-091-31-05 Sheehan, Daniel S., and Berry, Christine E. *Eleven-Year Enrollment Trends*.

EE79-315-31-20 Melican, Jerry, and Miller, Jonn. *Evaluation of the 1978-79 Emergency School Aid Act Pilot Program*.

T179-345-31-01 Andrews, Jerrilyn V. *Evaluation of the Title-I East Oak Supplementary Reading/Language Arts Program 1978-79*.

T179-345-32-02 Andrews, Jerrilyn V. *Evaluation of the Title-I East Oak Cliff Supplemental Mathematics Program*.

T179-345-33-03 Andrews, Jerrilyn V. *Evaluation of the East Oak Cliff Title-I Multicultural Social Studies Program 1978-79*.

T179-345-34-09 Andrews, Jerrilyn V. *Evaluation of the East Oak Cliff Title-I Bilingual Education Program 1978-79*.

T179-345-35-16 Andrews, Jerrilyn V. *Evaluation of the East Oak Cliff Title-I Personnel Development Center Program 1978-79*.

T179-349-31-11 Rutherford, William B., and Andrews, Jerrilyn V. *Evaluation of the 1978-79 Title-I Community Involvement Program*.

SP79-401-31-08 Rick, Pamela J., and Lym, C. LaVor. *Evaluation of the 1978-79 Pushing Excellence in Pupils Program*.

SP79-405-31-01 Almaguer, Ted O. *Evaluation of the 1978-79 East Oak Cliff Life Skills Mathematics Program*.

SP79-427-31-30 Anderson, Mark C., and Murray, Wayne R. *Evaluation of the Vanguard Schools, 1978-79*.

SP79-428-31-30 Staff, Phyllis E. Evaluation of the Academy Schools, 1978-79.

RE79-800-61-30 Olson, George H., and Meier, James A. An Interpretative Analysis of System-Wide Achievement Data, 1979-80, Grades K-3.

RE79-801-61-30 Olson, George H., and Meier, James A. An Interpretative Analysis of System-Wide Achievement Data, 1978-79, Grades 4-6.

RE79-802-61-30 Olson, George H., and Meier, James A. An Interpretative Analysis of System-Wide Achievement Data, 1978-79, Grades 7-8.

RE79-803-61-30 Olson, Goerge H., and Meier, James A. An Interpretative Analysis of the Results of the Implementation of the 1978-79 Title-I Programs.

RE79-809-61-30 Zepeda, R. A. An Interpretative Analysis of the Results of the Implementation of the 1978-79 Title-I Programs.

RE79-812-61-2 Hebbler, Stephen W. An Interpretative Analysis of 1978-79 of 1978-79 Special School Evaluation Results.

RE79-814-61-05

An Interpretative Analysis of 1978-79 Testing Programs

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Testing programs that were implemented on a system-wide basis consisted of norm-referenced, minimum competency and criterion-referenced measures. These tests were designed to support the instructional program by identifying student needs, facilitating curriculum improvement, monitoring student progress, and communicating student needs and successes to the community.

Norm-referenced tests that were administered in the spring to students at all grades except the twelfth grade were: Metropolitan Readiness Tests (MRT), Iowa Tests of Basic Skills, (ITBS), and Iowa Tests of Educational Development, (ITED). The norm-referenced measures provided a realistic check for Baseline Objectives and instruction by appraising general student achievement relative to that of similar students who responded to the same test on a national basis.

Minimum competency tests, Basic Objectives Assessment Tests (BOAT), that provided objectives-referenced information on student performance in basic skills, were administered during January and February to all students in grades 3, 6, and 8 through 12. The BOAT, Levels 3 and 6 measured student progress toward the attainment of basic skills that lead to minimum competency. Level 8-12 assessed the application of basic skills for purposes of graduation certification.

The Learning Division also administered criterion-referenced tests to determine student learning growth and needs relative to the Baseline Curriculum. These tests in reading and mathematics assisted in the completion of progress forms for supporting the Partners in Learning Program.

This report is divided into five sections, four of which are designed to present the overviews of and the results of implementing particular aspects of the testing programs. The five sections are as follows:

1. Development of the Basic Objectives Assessment Tests
2. Implementation of System-wide Group Testing
3. Evaluation of Norm-referenced Testing in Kindergarten and First Grade
4. Development of Criterion-referenced Tests
5. Summary and Implications for 1979-80

Development of the Basic Objectives Assessment Tests

During the 1978-79 school year, the Department of Research and Evaluation began the second implementation phase of the BOAT. This phase focused on the development of a paradigm test for Level 8-12 and further development in the basic skill areas (mathematics, reading, science/health, and social studies) for the Levels 3 and 6 tests. The objectives for these tests were identified and revised cooperatively by the personnel of the Learning Division, the East Oak Cliff Subdistrict, and the Department of Research and Evaluation. Subsequent approval was provided by the Board of Education (ST78-004). These objectives served as the content specifications for development of the tests.

A system of general question specifications and test development procedures was established. The general question specifications and format follow:

1. Each question was an application or context dependent question as specified by the related objective.
2. The question format was multiple-choice with four possible answers.
3. The questions involved only the literal and inferential levels of thinking.
4. The questions did not involve abstract thinking or value systems.
5. It was intended that the questions avoid culturally "loaded" contexts.

The test development procedures were as follows:

1. Test questions were written to measure each objective.
2. The questions were reviewed for content appropriateness by the personnel of the Learning Division, and East Oak Cliff Subdistrict, and revised accordingly.
3. The questions were pilot tested using a sample of District students.
4. The homogeneity of the item statistics, difficulty and discrimination, were checked to aid in the identification of inappropriate questions.
5. The internal and retest reliabilities of the tests were checked.
6. The validities of the tests were estimated by reference to concurrent measures of student ability.

Results: Level 8-12

Form 1 of the BOAT, Level 8-12 was developed from the previously established pool of test questions and supplemented where necessary, with new questions. This form of the BOAT was then reviewed for content appropriateness and as a result, two of the 125 questions were revised.

Pilot testing provided data on the test questions. Statistics identified 20 relatively difficult and/or low discriminating questions of which nine were revised or replaced. The internal and retest reliabilities were based on the pilot study and system-wide testing. These measures were acceptably high indicating a high degree of consistency and accuracy. Concurrent validity measures indicated moderate relationships with the Iowa Tests of Basic Skills (ST79-005) and the Life Skills Mathematics Cluster Test (SP79-405).

While these data supported the technical quality of the test, some difficulties in the test production schedule and editorial review were encountered. Delays in the printing of the test caused a problem in the test distribution schedule. An inadequate editorial review of the test failed to detect some grammatical and structural errors in the questions. These difficulties have resulted in the advancement of the production schedule and the institution of a systematic editorial review of all test questions for 1979-80.

Results: Levels 3 and 6

Levels 3 and 6, each contained four subtests: mathematics, reading, science/health, and social studies. The science/health and social studies subtests were developed from new questions. Review of these tests by Learning Division personnel indicated a general dissatisfaction with the previously identified and approved objectives. Apparently, substantial changes in instructional emphasis and a change in the testing schedule caused some conflict between instruction and the content of the tests.

Test tryouts were conducted during the scheduled system-wide testing period. These tests were found to be somewhat more difficult than was anticipated, reflecting the possible mismatch between instruction and the content of the tests.

As a result, revision of the objectives is planned for the next implementation phase of the program. Specifically, the mathematics subtests will be restricted to the assessment of mid-third and mid-sixth grade objectives, as appropriate. Reading subtests will be revised to primarily assess literal reading comprehension at grades 2.5 and 4.5 reading levels. The science/health subtests and objectives will be completely restructured to better fit current instruction. Finally, the social studies subtests and objectives will be revised to eliminate redundancy. These revisions will produce a new set of objectives for the BOAT, Levels 3 and 6, to be utilized in the third implementation phase of the program.

Implementation of System-wide Group Testing

Two studies were designed to document implementation and assess validity of the results of BOAT and all norm-referenced tests. The status information was provided for purposes of: (1) supporting annual and longitudinal achievement accountability, (2) planning future test administrations in terms of budget considerations and materials, (3) making changes in program implementation as a result of data analyses, (4) reporting to school personnel the extent of testing that occurred in the District, (5) denoting additional testing needs, (6) improving test utilization and interpretation, (7) providing service to schools and parents which would improve the quality of test results, and (8) identifying problems related to meeting the goals of testing.

Because the BOAT is of extreme significance for graduation requirements, it was appropriate to document the testing conditions and the testing time allowed to students. Similarly, the extent that norm-referenced tests were administered according to the standardized framework previously established by the norm group was examined.

Results

Group testing was implemented as previously listed in the schedule with the exception of a variation in MRT and ITBS test levels administered in grades K-3. Materials were also distributed from the System-wide Testing Service Center for various tests administered by the Learning Division. Following the completion of testing on February 9, 1979, the BOAT data were scored and certain reports were generated as scheduled on March 7, 1979. Class Listings of BOAT scores and cumulative record labels were distributed to the schools in mid-March 1979. The Student's Report of BOAT Scores (grades 8-12) and the school summaries were ready during the first week of April, 1979; however, the release of these reports was delayed until May 14, 1979 due to administrative considerations. All norm-referenced tests (MRT, ITBS, and ITED) were scored and all reports, except summaries, were produced between April 9, 1979 and May 18, 1979. All schools received test reports by May 24, 1979.

Large city norms, developed for the ITBS and the ITED in 1971, provided the basis for student percentiles and school summary data. National percentiles, obtained in 1976, served as the standard for MRT scores. Summary results for all tests were also based on national norms.

Norm-referenced tests have been criticized because grade level tests have not seemed appropriate in content for students who scored at the lower and upper extremes on such tests. The Dallas student population is no different from most large city school districts in reflecting wide differences in achievement within grades. In order to meet the testing goals previously stated, the System-wide Testing Program has implemented out-of-level testing since its initial use of the ITBS in 1974. The concept of "out-of-level testing" relates to testing students at functioning achievement levels regardless of grade classifications. Data analyses have indicated that when students are functioning below their present grade assignments, the answers on the grade-level test have tended to be random guesses which have made the tests invalid for measuring achievement. Grade-level testing also increases long-range frustrations and depresses motivational levels for students unable to cope with the tests. Therefore, it is anticipated that out-of-level testing will approach the elimination of chance scores (random guessing) and increase accuracy of measurement for determining growth.

At kindergarten and grades 1-3, the MRT and ITBS were administered according to grade assignment with exceptions by special request for testing one level below grade assignment in kindergarten and grades 2 and 3. In cooperation with System-wide Evaluation, a computer listing entitled "ITBS Test-Level Designations for Spring 1979" was provided for students in grades 4-8. These students were recommended test levels on the basis of individual spring or fall, 1978 ITBS achievement in reading comprehension and mathematics (students with no such scores were not recommended test levels). A test-level designation was made by (a) computing the average percentage of correct answers across the two subtests, (b) obtaining an index of the "meaningfulness" (see section concerning evaluation of kindergarten and first grade testing) of this percentage score, and (c) considering the test level administered. The schools were also given information for determining appropriate test levels for those students needing test-level assignments.

Students were assigned test levels according to grade assignment and the following out-of-level restrictions:

(a) Fourth grade students were tested no more than one level below grade assignment.

(b) Fifth grade students were tested no more than two levels below and one level above grade assignment.

(c) Students in grades 6 and 7 were tested no more three levels below and one above grade assignment.

(d) Eighth grade students were tested no more three levels below grade assignment.

The ITBS test publisher recommended that students be tested no more than two levels above or below grade assignment. Analyses of test results, however, support the risk in recommending three levels below grade assignment for improved measurement.

Specific policy statements relative to testing with the BOAT, MRT, ITBS, and ITED were:

(a) All students who spent more than two hours each day in special education/Plan A classes were not tested.

(b) All students whose primary language was other than English and who were of limited English proficiency were not tested.

(c) All test reports were to be maintained in a secure place in the local school building.

(d) All recommended test-level assignments for the ITBS were to be verified and/or changed at the local school level before testing.

The system for maintaining a BOAT data base at the local building included (a) gummed labels to be attached to the student's cumulative or permanent record, counselor's record and other necessary records, (b) two types of alpha listings of test scores grouped by failures only and mixture of all students tested in grades 8-12, (c) class listings according to groups as tested, and (d) school summaries by grade.

Notable observations from both testing periods, BOAT and norm-referenced tests, indicated that test groups appeared conducive for testing when either method of testing was used: classroom examiner or examiner using the public address system. The general impression of norm-referenced test sessions was that examiners adhered to appropriate time requirements. Some high schools and middle schools inappropriately reduced the amount of time needed and specified for students to complete the BOAT. Both internal and external disruptions were observed during some testing sessions. High schools and middle schools showed the highest incidence of disruptions. Disruptions included talking, noise from outside sources, someone entering or leaving the room during the test, bells ringing, and public address announcements unrelated to the test.

It was determined that the following reasons reflected a need for changing from the use of the ITED at grades 9-11: (a) changes in curricular areas and instructional offerings, (b) ITED results indicated floor effects and poor measurement, (c) the 10-year-old content of the

ITED remains unchanged, and (d) ITED publishers, Science Research Associates, will not grant/sell the rights to large city norms to outside agencies. A test review committee and managers from Research, Evaluation, and Information Systems (R,E&I) reviewed those commerically developed tests that had been recently renormed. Specifically, tests reviewed were Metropolitan Achievement Tests (MAT), Iowa Tests of Educational Development, Sequential Tests of Educational Progress (STEP), and Tests of Achievement and Proficiency (TAP). It was recommended that TAP be chosen because (1) five Dallas schools participated in the national norming study and (2) it would establish continuity in the overall norm-referenced testing program. It was finalized, however, through the DISD Learning and Development Councils and administrative officers that administration of the ITED would be continued in 1978-79.

At the Principal's July Work Conference in 1978, each principal designated a teacher or counselor to represent his/her school as test coordinator for the 1978-79 school year. Each test coordinator, under the principal's direction, served as the contact person for System-wide Testing and prepared the school for testing. The Test Coordinator's Handbook, the system-wide testing schedule, and other updated information provided resources for all testing. Two staff development sessions for test coordinators were held in December, January, February or March. One of three contact persons, assistant evaluators, was assigned to each subdistrict. These contact persons, along with the Executive Evaluator, provided service in the form of staff development or test interpretation and dissemination to all schools requesting such assistance. Forty staff development sessions were conducted at predominantly early childhood or intermediate schools. System-wide Testing served ten parent meetings in various schools.

Under the direction of Educational Testing Service, on October 14, 1978, the annual administration of two area tests of the National Teacher Examinations (NTE) were conducted. The NTE/Commons and the Administrative and Supervisory Examinations were administered at Bryan Adams High School to perspective candidates for the District's Leadership Training Program.

Projections 1979-80

System-wide Testing continually seeks to update its program as needs are identified and as changes occur in the testing movement. A number of national standardized tests have been recently renormed and rewritten. It is anticipated that the 1978 ITBS and TAP will be used at grades 1-11. There will be a continual search for appropriate measures of students whose primary language is other than English and who are of limited English proficiency. Some achievement tests, including TAP, for grades 9-12 provide items for generating a life skills measure or score. Two forms of the BOAT will be implemented through improved test administrative procedures. The present system of reporting all test results will be redesigned where appropriate. There will be increased emphasis on staff development relative to testing. A master plan will be developed for coordinating all testing in the DISD.

Evaluation of Norm-Referenced Testing in Kindergarten and First Grade

The purpose of this evaluation was to ascertain the appropriateness of system-wide testing of (a) kindergarten students with the Metropolitan Readiness Tests, Level II, and (b) first grade students with the Iowa Tests of Basic Skills, Level 7. In order to accomplish this purpose, an index of the "meaningfulness" of MRT and ITBS test scores was developed. This index was based upon the rationale that guessing on multiple choice tests can produce a minimum score, referred to as the chance score. Test scores which fall at or below the chance score are not useful in assessing student knowledge because these scores are overly influenced by chance factors and, thus, are not indicative of subject matter knowledge.

Comparison of actual and chance scores for first grade students was based upon two administrations of the ITBS, Level 7, spring 1978 and spring 1979. Similarly, MRT, Level II data from those two testing dates were also analyzed. However, additional data from the fall 1976 administration of MRT, Level I were also analyzed to help determine whether fall or spring testing is more appropriate for kindergarten students.

Results:

With respect to kindergarten, it was found that the MRT, Level II was appropriate for measuring readiness. Data from the fall 1976 MRT, Level I testing and the spring 1978 and 1979 MRT, Level II testings indicate that kindergarten students achieved higher means with smaller standard deviations on spring testing of the MRT, Level II. The percentage of students scoring below the chance score was 15% on the MRT, Level I. The MRT, Level II results ranged from 7 to 12% in 1978 and 4 to 8% in 1979 scoring below the chance score. The weaker subtest on the MRT, Level II was the quantitative section. The composite from the two subtests on the MRT, Level II showed 7% scoring below chance in 1978 and 4% scoring below the chance level in 1979.

The findings for the first grade, however, were not as unequivocal as at kindergarten. It was found that in general the ITBS, Level 7 was appropriate for use, but reading subtest scores are a source of concern. With the spring 1978 ITBS, Level 7 testing, the total test composite of the eight subtests showed that 12% scored below the chance score. The percentage of students scoring below chance level in mathematics was 5%; however, in reading, the percentage increased to 37%. Similar results were found with the spring 1979 ITBS, Level 7 testing. The percentage of students scoring below chance was 10% for the composite, 4% for the mathematics section, and 33% for the reading section.

Data seem to indicate that most first grade students obtain meaningful scores (above chance) when taking the ITBS, Level 7 in the spring. The ITBS, Level 7 is designed to measure achievement and covers a more diverse array of subject areas than the MRT, Level II. There are, however, a large number of DISD students who do not appear to be able to function adequately on the reading section of the ITBS, Level 7; these findings imply a need for considering a more appropriate test-level for some first grade students.

Development of Criterion Referenced Tests

The Learning Division of the DISD initiated the development and implementation of criterion referenced tests (CRTs) related to the Baseline Curriculum. These CRTs were developed as a means for classroom teachers to monitor student attainment of the Baseline Objectives in mathematics, reading, writing, science/health, and social studies for each grade level, 3 through 12.

System-wide Testing assisted in the development and validation of the Social Studies and Science/Health CRTs by specifically designing a system of test question specifications and test development procedures. Data were gathered to support this system, and based on the data analysis, suggested test revisions were reported to the Learning Division (ST79-501 and ST79-502). Structural reviews of the CRTs were obtained from the appropriate Learning Division personnel and DISD teachers. Student performance data were obtained in grades 3 through 12.

Results: Social Studies CRTs

The Social Studies CRTs, grades 3-12, were rated by twenty social studies teachers and fourteen social studies curriculum facilitators. Two of the ten tests, levels 7 and 8, were rated inappropriate, with the major problems being redundancy of test content, repetition of test items, and inappropriate wording and structure of items. The other eight tests were rated as appropriate. The ratings were used to refine, revise, and delete specific items on each appropriate CRT.

The CRTs were administered to a sample of students (N = 527) in grades 3-12 during the 1978-79 school year. Student response data were available for all seven subtests of eight grade level tests. Difficulty and discrimination indices were computed; they reflected that the content measured by the CRTs was attained by many students. However, the objectives in the Baseline Curriculum often do not specify the intended level of instructional content, possibly resulting in many of the items being superficial measures of the objectives. In future validation of the CRTs the level of difficulty of the content must be explored. The CRTs should measure the broad range of curriculum and not be limited as a minimum measure.

Results: Science/Health CRTs

A complete listing of item ratings specifying items needing revisions or deletions was presented to the Science/Health Senior Analyst in January, 1979 for use in writing items. Due to the number of changes, there was limited use of the tests in classrooms throughout the District. A team of science/health teachers and curriculum specialists met the first of June to review the tests and initiate revisions. The evaluators met with these reviewers and presented a list of writing specifications aimed at improving and standardizing individual tests and formats. The second phase of test validation and implementation will involve a controlled sampling of student performance on the revised Science/Health Criterion Referenced Tests.

Summary and Implications for 1979-80

Delays in printing and inadequate editorial review of form 1 of the BOAT, Level 8-12 will result in an advanced production schedule and the implementation of a systematic editorial review of all questions for BOAT

1979-80. Two forms of the Level 8-12 BOAT will be implemented through improved test administration procedures. The objectives for Levels 3 and 6 of the BOAT will be revised appropriately; these tests will be written to reflect the new objectives. In order to take advantage of new norms and revised tests, it is recommended that the 1978 ITBS be used in grades 1-8. The new ITBS which includes a mathematics computation subtest will eliminate the need for the Shaw-Hiehle Computation Test. This elimination of testing efforts will enhance the development and coordination of a master plan for all DISD testing. As recommended, the TAP will replace the ITED at grades 9-11. Considering that a large number of first grade students indicated difficulty with the reading subtest of the ITBS, Level 7, it seems appropriate that a test-level of lower difficulty be made available. Validation of the Social Studies and Science/Health CRTs will continue as planned.

References

Alexander, C. R. *System-wide Testing Program, 1978-79*, ST79-504-31-05, May, 1979.

Almaguer, T. O. *Evaluation of the 1978-79 East Oak Cliff Life Skills Mathematics Program*, SP79-405-31-02, September, 1979.

Arrasmith, D. G. *Initial Implementation and Technical Description of the Basic Objectives Assessment Tests* (BOAT), ST79-500-31-05, May, 1979.

Arrasmith, D. G. and Barber, J. *An Investigation of the Relationship Between the Iowa Tests of Basic Skills and the Basic Objectives Assessment Tests*, ST79-506-31-04, July, 1979.

Arrasmith, D. G. and Montgomery, P. A. *Validation and Item Review of the Science/Health Criterion-Referenced Tests*, ST79-501-31-04, October, 1979.

Barber, J. and Arrasmith, D. G. *Validation of Social Studies Criterion-Referenced Tests*, ST79-502-31-03, June, 1979.

Montgomery, P. A. and Alexander, C. R. *Evaluation of Norm-Referenced Tests Used in Kindergarten and First Grade*, ST79-505-31-05, May, 1979.

Watkins, P. and Alexander, C. R. *An Analysis of Test Administrative Procedures During System-wide Group Testing, 1978-79*, ST79-503-31-05, April, 1979.

An Interpretative Analysis of 1978-79 Applied Research Results

Michael R. Vitale

Overview and Introduction

The purpose of this analysis is to highlight key findings and implications stemming from Applied Research projects completed during the 1978-79 school year. In doing so, the potential contributions from each of the total of sixteen individual reports were considered carefully from a perspective of their practical value to existing instructional practices within the District, both at the present time and across the next several years. This emphasis upon positive implications represents a significant departure from the primarily summative function of preceding Applied Research analyses of this type (e.g., Vitale, AR78-315-31-05) and is based upon the fact that significant aspects of the Applied Research activities have advanced beyond the level of only exploring problems within the District, searching the research literature for solutions to existing District problems, or conducting studies designed to illustrate the potential relevance of powerful theoretical principles in student learning. While all these activities certainly are continuing, some Applied Research findings have moved into the realm of identifying programmatic applications for existing District practices in the areas of basic skills instruction, instructional planning and management, and evaluation. The implications of these findings, therefore, receive a major emphasis in this report.

Four major sections follow. First, the role and purpose of the Applied Research Program itself is briefly overviewed. Second, key findings from the five general categories of the sixteen Applied Research reports completed during 1978-79 are reviewed. Third, the major implications stemming from these findings are considered. And, fourth, an overall recommendation for future Applied Research priorities is offered.

Role of Applied Research Activities within the District

Product of applied research. The goal of the Applied Research Program is to provide knowledge that is usable directly within the District to improve student performance in targeted priority areas (cf. Vitale and Medland, AR78-086-31-05). Areas of student performance presently falling within the scope of Applied Research activities include student motivation, academic achievement, school attitude, academic self-concept, and learning facilitation skills (e.g., self-management, creativity, problem solving, intelligence skills). As might be expected, the potential consumers of Applied Research findings within the District are administrative personnel having responsibilities bearing upon instructional practices, management, planning, and evaluation. Together, the preceding suggests an extremely stringent set of criteria for the success of any aspect of the Applied Research Program. First, the procedures or principles advocated must be validated within the District as effective in producing the targeted student outcomes without question. Second, any methods used to produce such outcomes must be viewed to be practical solutions by teachers and campus level administrators. And, third, procedures must meet feasibility and other crucial management requirements as judged by central administrative staff.

Process of applied research. As practiced within the District, applied research consists of iterative sequences of (a) identifying learning-theory-based principles relevant to District practices, (b) estimating their potential applicability within the District, (c) demonstrating, through research, their relevance to student performance, and (d) determining procedures through which such principles can be adopted within ongoing District practices. In brief, then, the strategy of applied research within the District is to use research-validated theoretical concepts of the student learning process to determine the starting point for solving instructional problems. Such a strategy, therefore, insures Applied Research activities are based upon relevant existing knowledge and promises to be extremely powerful. Because the science of learning is far more advanced than the practice of instruction in many areas, this strategy also has the advantage of addressing problems in a positive fashion by first specifying the general conditions necessary for their solution. In turn, this transforms much of instructional problem solving into a search for procedures to engineer a solution using what is known rather than the searching for basic answers themselves. Primarily, applied research is the transformation of theory into practice, along with any subsequent advancement of theory as a potential side-benefit of implementing practical solutions.

Scope of applied research studies prior to 1978-79. Figure 1 overviews key Applied Research studies conducted prior to those to be considered in the remainder of this report. In general, the reader should note that the pattern of investigation follows the general strategy presented in the preceding section. Implicitly, considered as a stage in an evolutionary process, the results of some Applied Research projects for the 1978-79 school year have begun to approach criteria for successful products stated above.

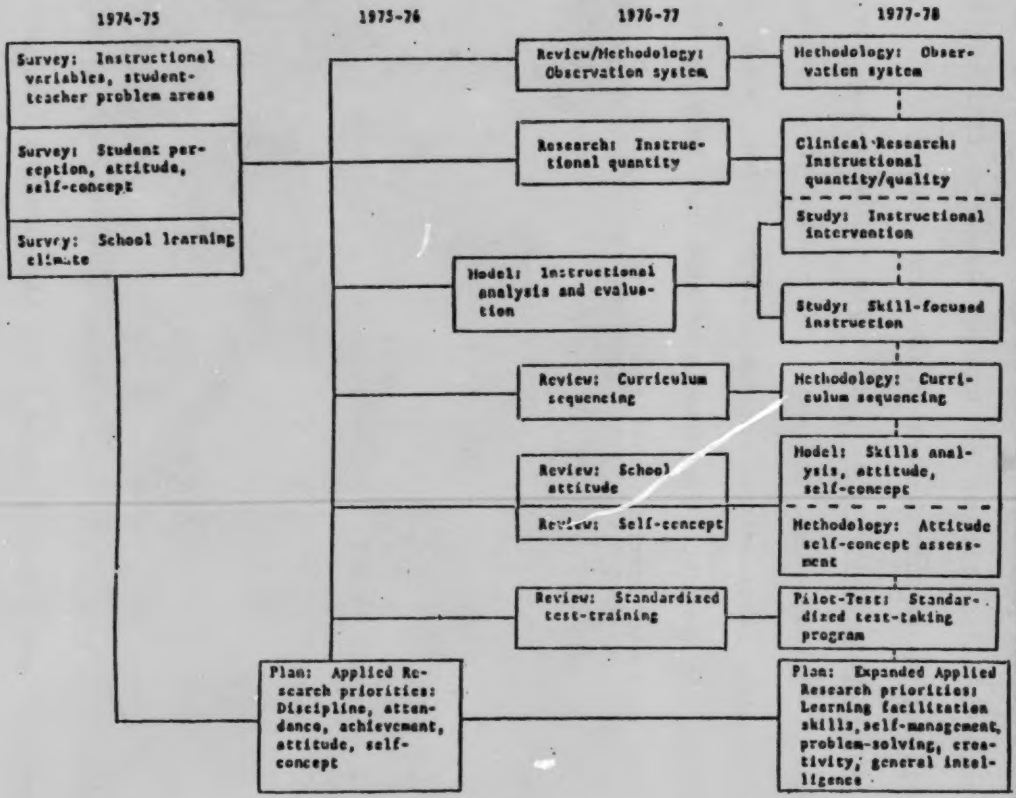
1974-75
1975-76
1976-77
1977-78
Survey: Instructional variables, student-teacher problem areas
Survey: Student perception, attitude, self-concept
Survey: School learning climate
Review/Methodology: Observation system
Research: Instructional quantity
Model: Instructional analysis and evaluation
Review: Curriculum sequencing
Review: School attitude
Review: Self-concept
Review: Standardized test-training
Plan: Applied Research priorities: Discipline, attendance, achievement, attitude, self-concept
Methodology: Observation system
Clinical Research: Instructional quantity/quality
Study: Instructional intervention
Study: Skill-focused instruction
Methodology: Curriculum sequencing
Model: Skills analysis, attitude, self-concept
Methodology: Attitude self-concept assessment
Pilot-Test: Standardized test-taking program
Plan: Expanded Applied Research priorities: Learning facilitation skills, self-management, problem-solving, creativity, general intelligence

Figure 1. Historical overview of Applied Research program.

Applied Research Results: 1978-79

Table 1 presents key and supporting reports within each of the five major categories of Applied Research completed during 1978-79. For clarity, rather than summarizing each of the reports themselves, findings having major implications for District practices are identified within each group below. Therefore, a more detailed picture of Applied Research findings must be obtained by exploring the reports designated for each category.

Learning-theory-based instruction. In their analysis of the Direct Instruction Model, Vitale and Medland (AR79-602-33-05) reviewed its theoretical rationale, instructional characteristics (see Table 2), and empirical validity. In general, they concluded that not only is the model well-founded upon relevant instructional theory but also that basic skills instructional programs developed in accordance with principles of the model repeatedly have been validated as effective in compensatory education through national evaluative research. However, as an additional test of the model, two Applied Research projects were conducted during 1978-79. In the first, Medland, Kassell, and Ferrell (AR79-602-31-05) used direct instruction programming and instructional-delivery principles to teach mathematics in a typical Title I fourth-grade classroom. Using an instructional configuration consisting of a teacher and an aide, the results of the program after four six-week periods showed that student achievement on District standardized tests was dramatically accelerated (see Figures 2, 3, and 4), with students averaging between 2.5 and 3 months' growth for each month's instruction. In interpreting these results, it must be emphasized that the mathematics material programmed by them was used with no prior validation and, thus, is strong evidence for the instructional effectiveness of the model. In the

Table 1

Key and Supporting Reports Within Each of the Major Five Applied Research Categories

Research Category	Key/Supporting Report(s) (Abbreviated Report Number and Title)	Author(s)
Implementation of Learning-Theory-Based Instruction	Key: (602-33) Analysis of the Direct Instruction Model: Implications for Instructional Practices and Student Achievement	Vitale, Medland
	(602-31) Accelerating Mathematics Achievement of Title I Students	Medland, Kassell, Ferrell
	(602-32) Accelerating Reading Achievement of Title I Students	Medland, Ferrell
	(603-31) Facilitation of School Attitude and Academic Self-Concept	Vitale
	(610-31) Review: Role of Student Learning Facilitation Skills in Basic Skills Achievement	Medland, Vitale
Role of Skills Analysis Within Basic Skills Instruction	Key: (604-31) Behavioral Skill Analysis of Student Mastery of Mathematics, Reading, and Writing	Vitale
	(604-32) Analyzing Complex Skills Reading and Thinking	Medland
	(604-33) Analyzing Complex Skills in Mathematics	Kassell, Medland
	(604-34) Analyzing Complex Skills in Written Composition	Huntley
Definition of Generalizable Teaching Skills and Training Requirements	Key: (614-31) Some Curriculum-Generalizable Teacher Skills Required for Effective Classroom Instruction	Vitale
	(601-31) Developing Exemplary Classroom Instruction	Huntley
	(603-31) Facilitation of School Attitude and Academic Self-Concept	Vitale, Rose
Methodology for Instructional Accountability/Evaluation	Key: (608-31) Development of a Model Instructional Accountability System	Vitale
	(608-32) Computer-Based System for Creating Skill Hierarchies	Rose, Vitale
	(607-31) Methodology for Analyzing School Motivational Systems	Vitale
	(603-31) Facilitation of School Attitude and Academic Self-Concept	Vitale
Future Instructional Theory-Based Applications	Key: (612-31) Using Quantitative Models for Instructional Design, Management, and Evaluation	Vitale
	(609-31) Review: Role of Generalization Research in Optimizing District Instructional Practices	Medland

Table 2

Instructional Charactistics of the Model

Characteristic	Elaboration and/or Rationale
1. Increased classroom manpower	Aides, ideally parents of students, are trained to help teach the program.
2. Structured use of time	Detailed schedule is prepared to insure that additional personnel are effectively utilized.
3. Efficient teaching methods	
a. Small-group instruction	Provides good teacher-student models for learning, allows for needed repetition in positive way, more efficient while providing the degree of individualization of one-to-one instruction.
b. Signals	Using signals for group responses insures that all students are responding to learning task rather than copying other students.
c. Motivational Rewards	The programs provide for the use of positive consequences to strengthen motivation and learning.
d. Corrections	Program is prepared to minimize student errors, uses teaching formats that allow simple forms of correction.
e. Procedures to teach every student	Small group setting allows close teacher-student proximity. Lower performing student can be monitored, errors corrected, students praised on individual basis.
4. Training and supervision	Training is designed and provided to make certain teachers and aides have skills to teach small groups. Included is both pre- service and classroom supervision. Supervisors spend 75 percent of time in classrooms. Program managers adapt implementation schedules, monitor all phases of the program, and continually attempt to improve the implementation. Managers spend most of their time on site in the classroom. Both provide for quality control of teaching.
5. Monitoring of student progress	Paraprofessionals administer criterion-referenced tests at frequent intervals. Typically, biweekly reports monitor rate and quality of student progress.

I.T.B.S. MATHEMATICS CONCEPTS

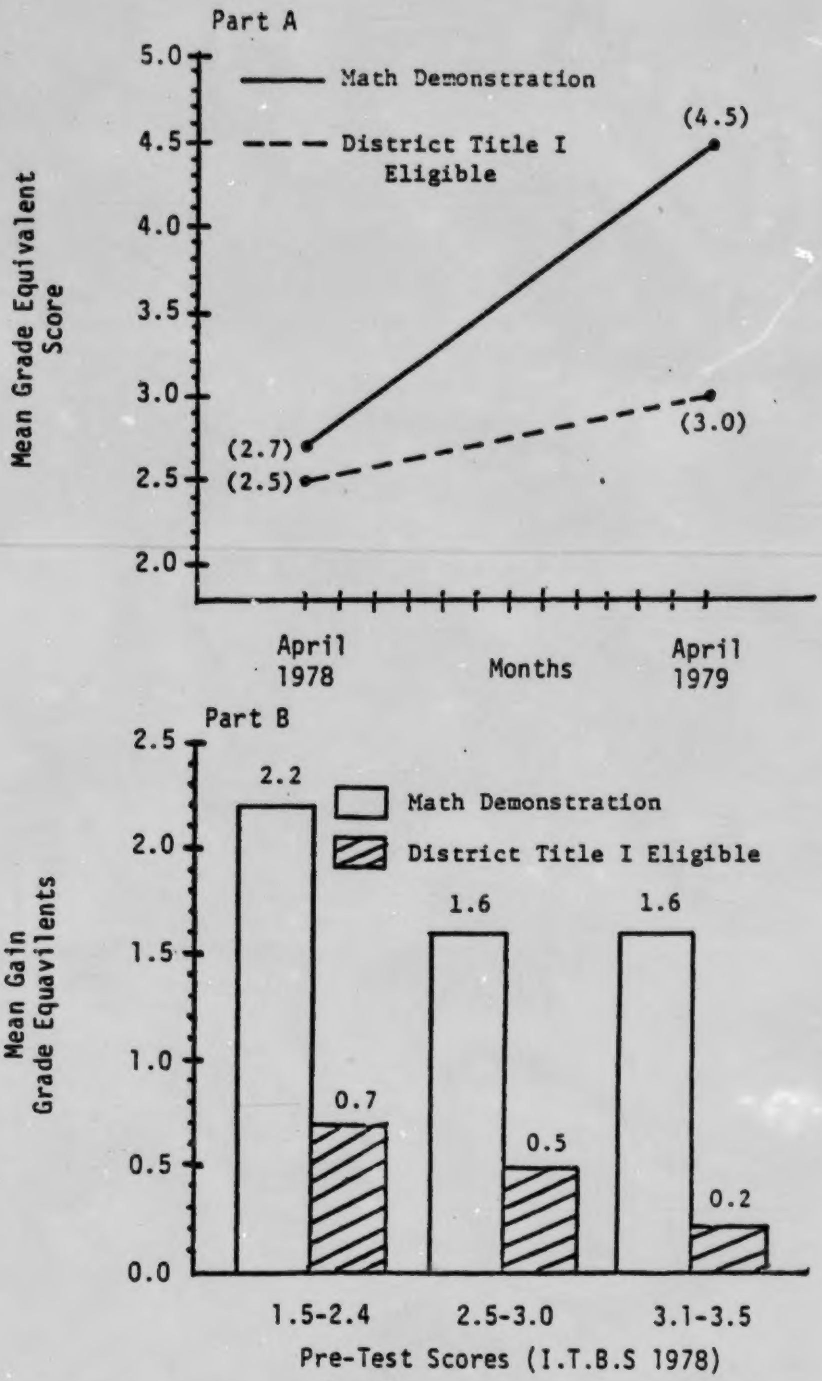

Figure 2. Comparison of Applied Research Mathematics Demonstration classroom and Fourth Grade Title-I eligible students on the Level 9 I.T.B.S. Math Concepts Subtest. Part A shows mean pre- and posttest scores for experimentals and Title I-eligible controls. Part B shows mean gains for each subpopulation with indicated pretest score interval.

I.T.B.S. MATHEMATICS PROBLEM SOLVING

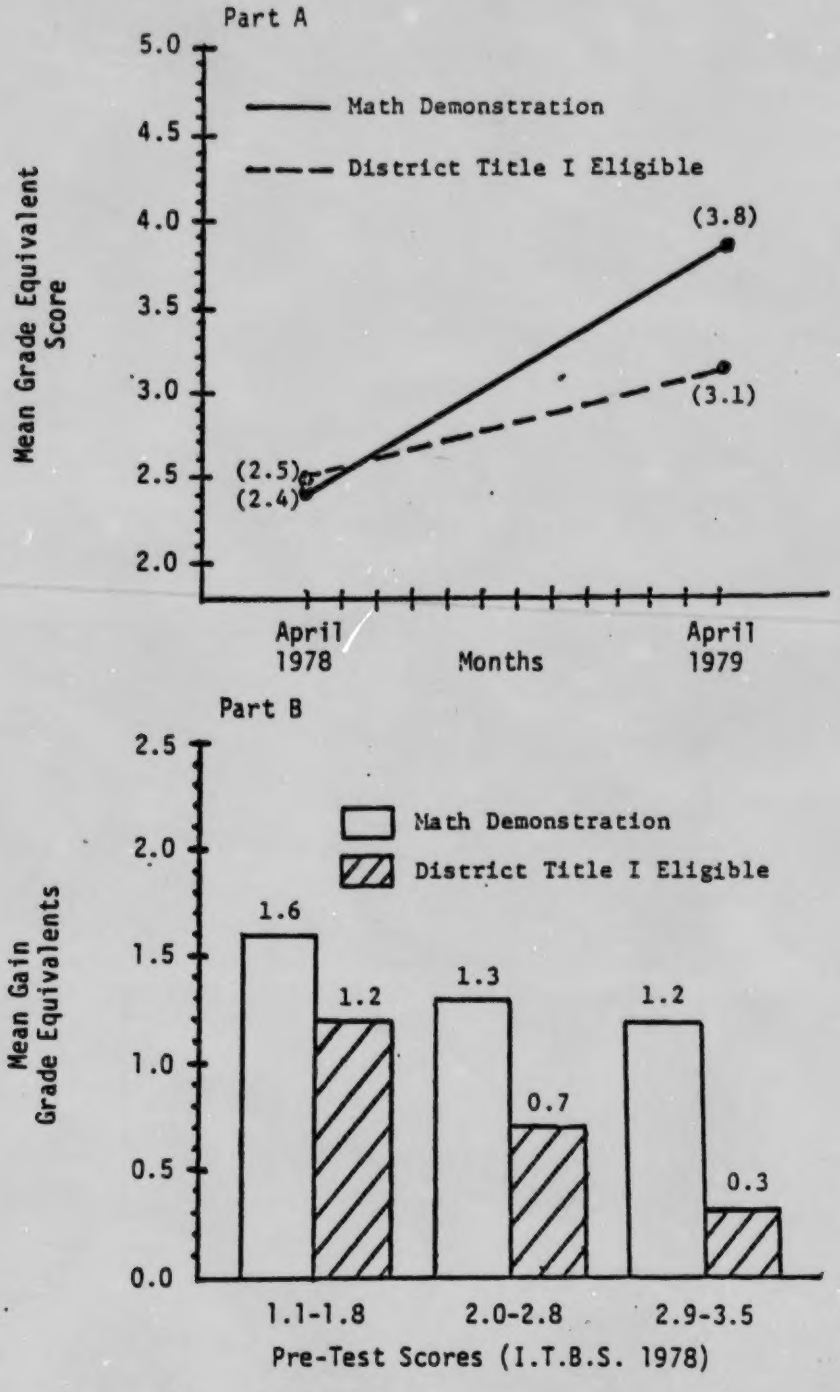

Figure 3. Comparison of Applied Research Mathematics Demonstration classroom and Fourth Grade Title I-eligible students on the Level 9 I.T.B.S. Math Problem-Solving Subtest. Part A shows mean pre- and posttest scores for experimentals and Title I-eligible controls. Part B shows mean gains for each subpopulation with indicated pretest score interval.

SHAW-HIEHLE COMPUTATION TEST 3-4

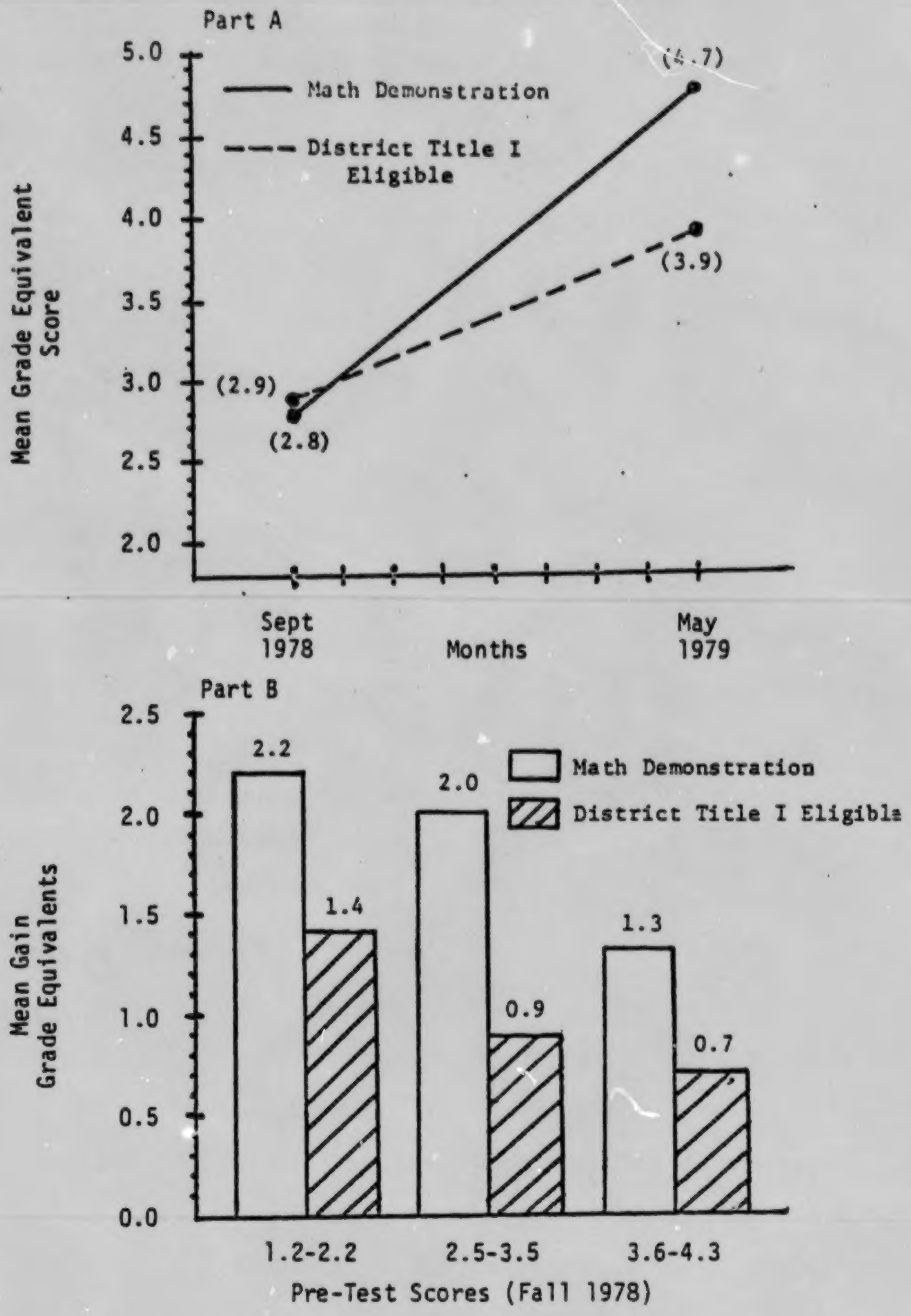

Figure 4. Comparison of Applied Research Mathematics Demonstration classroom and Title I-eligible students on the Shaw-Hiehle Computation Test 3-4. Part A shows mean pre- and post-test scores for experimentals and Title I-eligible controls. Part B shows mean gains for each subpopulation with indicated pre-test score interval.

second study, Medland and Ferrell (AR79-602-32-05) explored the effectiveness of a new, commercially available remedial reading program (Corrective Reading) designed in accordance with direct instruction principles with two classrooms composed of fourth- through sixth-grade Title I students. Despite a relatively short implementation period (January 1979 - May 1979), results showed approximately two months' growth for each month of instruction upon District standardized reading and vocabulary subtests (see Table 3) for students initially placing in Level B of the program. Additionally, as Figures 5 and 6 show, the program was able to greatly accelerate the development of both decoding and oral thinking skills of students in the program, with the performance of the experimental students on the thinking placement test for the program matching that of high-ability gifted students. Finally, while experimental students in both studies achieved at a rate that would eventually allow them to "catch-up" to their more advantaged peers, the population of all comparable Title-I students serving as a comparison group achieved at a rate at which they would fall farther and farther behind. By way of comparison, over half of the students in the experimental mathematics classroom achieved at or above grade level on the Iowa Tests of Basic Skills Mathematics Concepts Subtest after four six-weeks' periods. In complementing the three preceding reports dealing with the validity of the Direct Instruction Model, Vitale (AR79-603-31-05) has shown how teacher praise statements can be used within instruction to systematically build positive student attitude and academic self-concept (e.g., see Table 4), while Medland and Vitale (AR79-610-31-05) have illustrated how student learning facilitation skills can be taught to make all students more effective learners within instruction. Future Applied Research activities plan to incorporate the findings

Table 3

ITBS Achievement Gains for Experimental and Control Students

Group	ITBS Subtest	Total Gain in Months	Gain per Month of Instruction
Experimental CRP Students[a]	Reading	7.2	1.6
	Vocabulary	9.2	2.1
District Title I Controls[b]	Reading	8.0	.8
	Vocabulary	6.0	.6

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[a] 85 days of instruction, January pretest and May 1979 posttest, Level 9 ITBS.

[b] April 1978 pretest and April 1979 posttest. Title I students selected on grade level reading pretest scores comparable to experimental students.

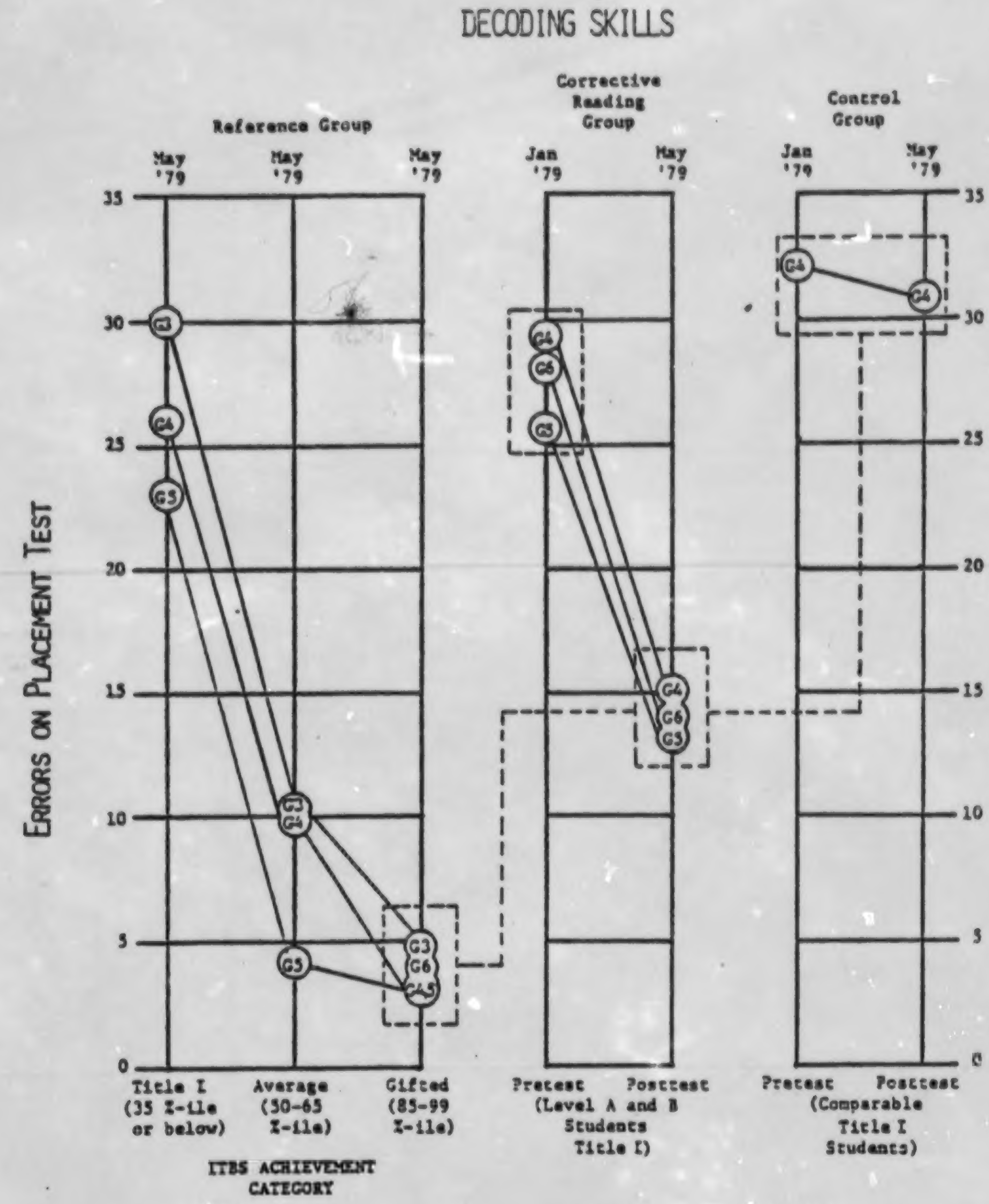

Figure 5 Mean number of errors on Corrective Reading Decoding Placement Test which included story reading, word reading, and blending. "G3," "G4," "G5," and "G6" denote student groups at a given grade level (e.g., G3 = grade three students).

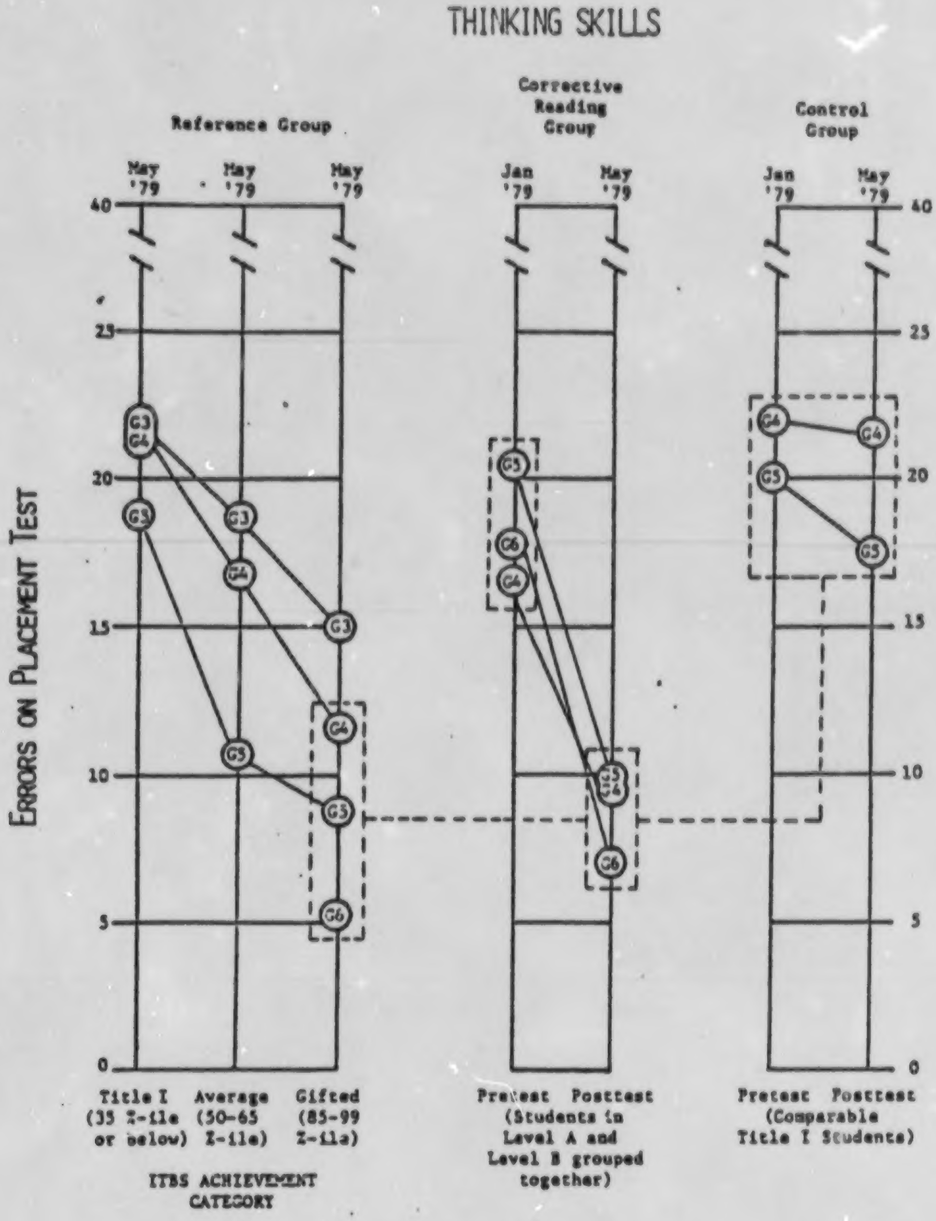

Figure 6. Mean number of errors on Corrective Reading Placement Test measuring higher order thinking skills (classification/analysis, logical reasoning, information). "G3," "G4,""G5," and "G6" denote student groups at a given grade level (e.g., G3=grade three students).

Table 4
Simplified Examples of Transitional Verbal Formats for Academic Self-Concept Skill [a,b]

Target Skill	Format Structure and Tense	Teacher-Delivered Verbal Formats		
		Statement	Yes/No Prompt	Question/Test
Success Identification	Structure Attributes	[name] [criteria] [value]	[name] [criteria] [value(Y)]	[name] [criteria] [value(?)]
	Past Focus	John, you finished all of your work on time last week. You did a great job.	John, didn't you finish all of your work on time last week? (YES). Don't you think you did a great job? (YES)	John, how did you do on your work last week? (I FINISHED IT ALL ON TIME). What kind of job do you think you did? (I DID A GREAT JOB)
	Present Focus	John, you just finished all of your work. You are doing a great job.	John, did you just finish all of your work? (YES) Are you doing a great job? (YES)	John, how are you doing on your work? (I FINISHED IT ALL ON TIME) What kind of job do you think you are doing? (I AM DOING A GREAT JOB)
	Future Focus	John, I know that you are going to finish all your work on time. I think you will do a great job.	John, are you going to finish all your work on time? (YES) Are you going to do a great job? (YES)	John, how are you going to do on the work just assigned? (I AM GOING TO FINISH IT ALL ON TIME) What kind of job will you do? (I WILL DO A GREAT JOB)

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[a] Teacher verbal behavior presented in regular type, student responses in capital letters.

[b] Although beyond the scope of the present abstract to consider in detail, correction procedures given a student "error" would consist of repeating prerequisite formats along tense (Future to Present to Past) and/or format training level (Question/Test to Yes/No Prompt to Statement) dimensions.. In turn, correction procedures for Past Focus: Statements would consist of having student's elaborate specific experiences relevant to the targeted skill.

of these two reports in order to augment direct instruction practices in future research demonstrations.

Role of skills analyses in instruction. Two important points are made within this series of four reports. First, Medland (AR79-604-33-05), in the areas of reading and thinking, Kassell and Medland (AR79-604-33-05), in mathematics, and Huntley (AR79-604-34-05), in written composition, all clearly illustrate that highly complex skills can be defined and taught with as much precision as the simplest rote learning task. Additionally, each report shows in its own way how effective instruction can be designed within each skill area. Second, and within the context of these three reports, Vitale (AR79-604-31-05) explored the role and limitations of skill analyses from a perspective of instructional systems design and troubleshooting. Distinguishing between two extreme instructional design models in which classroom teachers vs. instructional design personnel have major responsibility in planning classroom instruction (see Table 5), respectively, he points out the decidedly different roles of behavioral skill specifications within a context of instructional accountability and problem solving. Specifically, he argues that under a "teacher-based" instructional program design (see Table 5), the lack of explicit instructional program details cannot, in principle, be overcome by increasingly detailed break-downs of instructional learning goals and corresponding instructional test development alone when serious instructional problems exist. While most programs always contain aspects of both models considered, the fact that District basic skills instruction falls closer to being "teacher-based" may explain its simultaneously high success with average to above-average ability students and low success with hard-to-teach disadvantaged students.

Table 5

Design Attributes of Teacher-Based and Theory-Based Instructional Approaches

Attributes	Teacher-Based	Theory-Based
Goal Specifications	Behavioral skills	Behavioral skills
Design Process	Identification of instructional materials, strategies, activities by teachers with subject matter training.	Instructional sequencing, instructional lesson activities, teacher-student teaching procedures, mastery tests developed in interdependent fashion using learning theory principles.
Implementation Conditions	Teachers determine instructional procedures based upon instructional resources available and perceived student needs; facilitators support teacher activities.	Program specifies how teachers are to implement the program for maximum effectiveness; students are placed in program according to predetermined criteria.
Establishment of Program Validity	Since program is not defined specifically, the concept of validation has little meaning.	Program is empirically validated as effective for producing desired student performance. Initial validation failure may require extensive revision of all aspects of program.
Instructional Management	Instructional objectives set by assigning required mastery status of behavioral skills to appropriate grade levels. Mastery data may be obtained from management-created tests and/or reporting systems.	Progress of students across lessons is translatable directly into skill mastery information. Mastery tests may be used to confirm implementation conditions.
Accountability/Responsibility for Educational Success	Success or failure generally viewed as a function of general educational environment, available instructional resources, and individual teaching skills. Success typically attributed to teacher; failure, to general aspects of environment, resources, teaching skills. Assuming common environment and resources, undefined process of teaching viewed as critical determinant.	Success or failure, a function of program design and teacher implementation. In turn, program design is a matter of whether or not it was validated for the educational environment (viewed primarily in terms of student knowledge).
Potential for Institutional Troubleshooting of Instructional Problems	Major instructional problems almost impossible to solve because of lack of specification of teaching-learning process. Minor problems usually solvable.	Solving major instructional problems is difficult but not impossible if approached systematically as extension of program validation process. Minor problems are easily handled.

Curriculum-generalizable teacher skills. Tables 6 and 7, respectively, summarize the two categories of teaching skills applicable to all academic instructional areas that were identified during the initial year of this project (Vitale, AR79-614-31-05): (a) classroom management and (b) learning task. In general, these skills are viewed as necessary (but not sufficient) for effective student learning within the classroom setting. During the 1979-80 school year, Applied Research personnel will identify a more complete set of skills along with supporting staff-training requirements. In a companion report, Huntley and Medland (AR79-601-31-05) summarize consultative training activities of Applied Research personnel completed with classroom teachers during 1978-79. Finally, Vitale (AR79-603-31-05) has begun to identify teacher skills applicable across different curricular areas bearing upon school attitude and academic self-concept.

Methodology for instructional accountability and evaluation. After the completion of the initial year of a three-year project, Vitale and Rose (AR79-608-31-05) outlined the major components of an accountability system framed within a context of the State Accreditation Program. Specifically, the system developed would (a) provide the means for setting realistic student performance goals in terms of baseline curriculum structure and student entry levels, (b) monitor (in a sampling sense) the classroom instructional environment used to achieve these goals, (c) provide continuous management feedback regarding student (group) achievement on both District instructional and standardized tests, and (d) specify techniques for the remediation of identified classroom instructional weaknesses. In general, the system uses instructional-theory-based concepts as a basis for instructional planning (Rose and Vitale, AR79-608-32-05) and for the

Table 6

Selected Generalizable Classroom Management Skills

Skill Category	Procedural Elaboration
Defines targeted student behavior(s).	Consistently identifies occurrences and non-occurrences of defined targeted behaviors. Defines, counts and records instances of targeted behaviors including classroom academic achievement and social behaviors (at the individual, group, and class level).
Establishes effective classroom reward repertoire.	Utilizes verbal formats for praise statements (e.g., praise stating specific behavior). Designs procedures for using varied reward activities within classroom setting. Provides students with meaningful personal attention.
Uses theoretically sound forms of motivational control to support desired target behaviors(s).	Consistently uses positive rewards when students exemplify target behavior(s). Consistently avoids rewarding non-target behavior(s), or, for continuing problems, uses reward removal as a motivational control technique. Maintains high rate of positive reward while keeping high ratio of positive to aversive consequences. Distributes positive reward effectively to all students exhibiting target behavior(s) (i.e., catches child being "good," varies reward alternatives). Accurately monitors classroom behavior of all students while implementing motivational procedures.
Establishes student adherence to classroom rules.	Plans classroom operations under a given set of rules, specifies rules to students clearly and precisely, rewards student adherence to classroom rules as target behavior.
Plans and implements reward procedures for training new target behaviors.	Defines new target behavior(s) in relation to existing behaviors and then establishes effective reward procedure(s) for motivating continued student improvement. Consistently maintains planned reward guidelines until new target behaviors are established.

Table 7

Selected Generalizable Learning-Task Teaching Skills

Skill Category	Procedural Elaboration
Pre-task	Secures student attention (considered as a target behavior in management)
In-task	Informs students how to attend to learning stimulus and how to respond. Presents task stimuli clearly, indicating to students when to respond. Monitors student response at individual and group level. Uses and withdraws stimulus and response prompts as needed. Uses standard set of signals.
Post-task	Evaluates student responses as correct or incorrect. Rewards correct responses as academic achievement and other target management behaviors. Provides corrections if incorrect as needed and repeats task until all group members answer correctly before beginning next task. Rewards trying and/or improvement as targeted student behavior. Paces quickly between learning tasks.

analysis of classroom instructional-delivery practices. In companion reports, Vitale outlines specifications for the evaluation of school motivational systems (AR79-607-31-05) and for the assessment of school attitude and academic self-concept (AR79-603-31-05).

New areas for future applied research. In a short overview, Vitale (AR79-612-31-05) outlines how the preceding projects can all be subsumed within more general methodological studies using quantitative computer-based simulation models in the areas of (a) instructional design, (b) student classroom performance, and (c) instructional management functions (e.g., planning, accountability). In this report, Vitale shows how the natural outcome of successful Applied Research results should provide information in a form in which it could serve as input for strong simulation models within each of the three contexts above. Additionally, Medland (AR79-609-31-05) shows how District instructional objectives imply dependence upon transfer and generalization processes in learning that have, as yet, not been carefully investigated within the public school setting.

Major Implications of Applied Research Findings

This section presents the implications of 1978-79 Applied Research findings stemming from each of the major research categories shown in Table 1.

Learning-theory-based instruction. Research investigating the theoretical foundations and effectiveness of the Direct Instruction Model has important implications for basic skills achievement of compensatory education students:

1. The achievement potential of compensatory education students (e.g., Title I) has been seriously underestimated. Using learning-theory-based instructional programs in the basic skills areas, such students can achieve the accelerated progress needed to "catch up" to the level of performance of more advantaged

peers as measured by existing standardized achievement test norms.

2. Some educational programs needed to improve targeted basic skills achievement of under-achieving students have been validated as effective and are available commercially, with a great many more presently in the final stages of preparation. These programs require, however, a change in orientation for compensatory education practices (see Table 8) complementing their increased achievement expectations, especially in the area of supplementary instruction. Because such programs are designed technically to make maximally efficient use of allocated instructional time within the limits of personnel resources for small-group instruction, they require no supplementary resources beyond the range of the school classroom to be optimally effective. Therefore, direct instruction programs emphasize the need to design training and management programs for insuring the best possible teacher-student classroom learning conditions within the compensatory education setting in place of the problem of identifying alternative instructional strategies for supplementing existing classroom instruction.

3. Direct instruction programs potentially provide an important vehicle for systematically building positive student attitude toward learning and academic self-concept: first, because they are effective teaching programs and, second, because their high degree of teacher-student interaction provides continuous opportunity for encouraging such growth. Along these lines, because of their detailed teaching structure, instruction designed in accordance with direct instruction principles can serve as a basis for developing individual student self-learning skills as well.

Role of skills analyses in instruction. Implications of this series of reports follow from the major points made by them in the areas of skill definition and instructional systems design:

1. Educational consumers should require skill specifications for complex student skills in reading, thinking, mathematics, and written composition to be developed at the same level of precision and with the same degree of instructional validity as more simple rote learning skills. These same high expectations and standards also should be applied, in time, to all major academic areas as present methodological tools are refined over the next several years. Finally, the present Applied Research analysis of attitude and self-concept suggests the possibility of an initial set of affective student baseline performance objectives for school attitude and self-concept.

2. The process of refinement of complex academic skills is certainly a worthwhile activity in its own right in providing teachers with increasingly precise sets of targeted skills for focusing

Table 8

Selected Instructional Assumptions that Evaluative Research has Shown to be "False"

Instructional Principle	Evaluation Conclusion
1. Any program could be effective with enough money and personnel	Not True. In fact, most programs, except those based on Direct Instruction, do not work with money and personnel. The successful program must do the job in the classroom to be successful, and in doing so, may not need resources outside the classroom. With strong programs, trained personnel are a key factor.
2. Behaviorally oriented models can only induce rote learning	Not True. In fact, behaviorally oriented models that teach cognitive skills by analyzing and building them through systematic instruction teach cognitive skills best.
3. Self-directed learning is best for learning cognitive skills	Not True. In fact, prior selection and sequencing of critical examples and experiences is the most efficient method to teach all concept, thinking, and problem-solving skills. This issue is often confused with the kinds of experience (e.g., verbal, manipulative) required for learning. By definition, trial and error learning is the least efficient method.
4. Individualized instruction requires many different approaches	Not True. In fact, compensatory education programs that tried to teach different students in different ways fail badly, a finding also supported by experimental research of educational psychologists. In the Direct Instruction Model, all children experience the same sequences of skill development with the same teaching procedures. However, in the model, the use of standard correction procedures and the amount of repetition to mastery is individualized within a small-group setting.
5. Positive student affective outcomes can be produced through "good program intentions"	Not True. In fact, effective teaching provides the vehicle for developing positive attitude and self-concept. With learning success through positive motivation, explicit training procedures within a program can directly foster positive affective development.

instruction. However, such analyses have serious limitations in solving large-scale instructional problems with hard-to-teach students because they do not address the question of the characteristics of the learning process within the classroom. In comparison, a far stronger strategy for instructional problem solving is first to implement successfully highly structured and theoretically sound instructional programs and then, second, to determine, from a standpoint of successful instruction, which parts of their classroom learning procedures can be eliminated without suppressing achievement of specified subpopulations of students.

Curriculum-generalizable teacher skills. The implications following from these reports are as follows:

1. Based upon broad learning theory concepts, an initial (and continuing) analysis has identified key sets of classroom teaching skills applicable generally to all academic curricular areas. The identification of such skills coupled with their feasibility for effective training has broad implications on a long term basis for both teacher recruitment and evaluation. In the future, it may be possible both to train otherwise qualified personnel upon a core set of skills as preparation for effective classroom instruction and to design teacher personnel evaluation systems about those same teaching skills. Finally, another important implication in light of existing teacher shortages in key instructional areas is that, in using highly structured direct instruction programs, the sets of skills identified are sufficient for instructional success in most cases because little or no specialized subject matter expertise on the part of teachers is needed for them.

2. While the skills identified are presently trainable with certainty on a one-to-one trainer-teacher basis within the ongoing classroom setting, the training of such skills at the level of the District as a large institution will require careful planning and design. At this time, perhaps the best strategy to follow is first to refine and document procedures for effective training of such skills within the classroom setting with individual teachers on an experimental basis and, then, from that perspective, address the problem of effective teacher skill training within alternative existing staff development practices.

Methodology for instructional accountability and evaluation. Among the implications for instructional planning, management, and evaluation from these reports are the following:

1. The methodology being developed promises to provide far more powerful forms of information for use by management for instructional decision making in a timely fashion within the next

several years. This increase in information should allow for (a) far more precise statements of educational goals from a perspective of accountability, (b) the monitoring of key classroom instructional conditions and associated student achievement progress, and (c) the providing of specific procedures for improving selected classroom problem areas at the campus level.

2. Along the same lines, applications falling within the scope of the reports in these areas should provide the technical basis for building criterion-referenced assessment systems in the areas of mathematics, reading, attitude, and academic self-concept that are directly usable by teachers in both instruction and measurement for student mastery.

New directions for future applied research. Implications in this area are as follows:

1. The development of computer simulation models within the areas of (a) instructional design, (b) student classroom performance, and (c) instructional management are a future long-term applied research priority that, as a natural outgrowth of procedures undertaken within continuing applied research projects, could provide an increasingly powerful administrative resource. Development of specifications for such future applications is an Applied Research priority for 1979-80.

2. Many District educational objectives in all curricular areas emphasize application of knowledge as a performance outcome. However, while certainly educationally sound, the teaching of application skills ultimately depends upon the underlying learning processes of transfer and generalization. Further investigation of this historically complex area of research promises to yield instructional specifications optimizing District instructional outcomes in "teaching for transfer."

Recommendations

Applied Research should continue existing priorities during 1979-80. In addition, special emphasis should be placed upon communicating the implications of Applied Research findings to appropriate District instructional and management personnel.

References

Huntley, G. M. *Analyzing Complex Student Skills in Written Composition* (AR79-604-34-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Huntley, G. M., and Medland, M. B. *Developing Exemplary Classroom Instructional Systems for Impacting Academic Achievement: 1978-79* (AR78-268-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Kassell, S., and Medland, M. B. *Analyzing Complex Student Skills in Mathematics* (AR79-604-33-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Medland, M. B. *Literature Review: The Role of Generalization Research in the Optimization of District Instructional Practices* (AR79-609-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Medland, M. B. *Analyzing Complex Student Skills in Reading and Thinking* (AR79-604-32-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Medland, M. B., Kassell, S., and Ferrell, C. C. *Mathematics Demonstration Project: Accelerating Academic Achievement of Title I Fourth-Grade Students* (AR79-603-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Medland, M. B., and Ferrell, C. C. *Reading Demonstration Project: Accelerating Academic Achievement of Title I Elementary Students* (AR79-602-32-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Medland, M. B., and Vitale, M. R. *Literature Review: Role of Student Learning Facilitation Skills in Basic Skills Achievement* (AR79-610-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Rose, A. P., and Vitale, M. R. *A Computer-Based System for Creating Student Skill Hierarchies* (AR79-608-32-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, M. R. *Methodology for the Analysis of School Motivational Systems* (AR79-607-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, M. R. *Facilitation and Maintenance of Student School Attitude and Academic Self-Concept* (AR79-603-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, M. R. *Behavioral Skill Analysis of Student Mastery of Mathematics, Reading and Writing* (AR79-604-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, M. R. *Using Quantitative Models for Instructional Design, Management, and Evaluation* (AR79-612-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, M. R. *Some Curriculum-Generalizable Teacher Skills Required for Effective Classroom Instruction* (AR79-614-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, M. R. *An Interpretative Analysis of 1977-1978 Applied Research Results* (AR78-315-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, October 1978.

Vitale, M. R., and Medland, M. B. *Analysis of the Direct Instruction Model: Implications for Instructional Practices and Student Achievement* (AR79-602-33-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, Michael R., and Rose, A. P. *Developing a Model Instructional Accountability System* (AR79-608-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, December 1979.

Vitale, M. R., and Medland, M. B. *A Plan for Applied Research: 1978* (AR78-086-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, October 1978.

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An Interpretative Analysis of the 1978-79 Partners in Learning Program Evaluation Results

Deberie Gomez Adkins

The Partners in Learning Program was first implemented in 1976-77 and has thus been operational for three full years. The four basic components, Reading, Writing, Mathematics, and Parental Involvement were expanded developmentally over the three-year period. During the 1978-79 school year, all four components were implemented District-wide in grades K-8.

The primary goal of the entire Partners in Learning Program is to create a strong bond of shared responsibility among the home, the school, and the community by means of communicating the student's academic achievements and needs to the parents. The three academic components use teacher assessment of student performance to place students relative to the baseline objectives of the content area. Teachers continue to assess the student's progress based on mastery of the baseline objectives.

The Parental Involvement Component consists of parent-teacher (grade levels K-6) and parent-teacher-student (grade levels 7-8) conferences which are scheduled in the fall and the spring of each year. At these two conferences, the teacher reviews with the parent(s) the student progress forms for reading, writing, and mathematics. These forms provide the parent(s) with information about their child's progress along the baseline objectives of the three content areas. The teachers and the parents then determine what contributions might be made in the home to further enhance the student's progress. Test materials and instructional materials are made available to parents who desire them.

The information included in this interpretative analysis highlights the results of student achievement based on teacher assessments which were recorded on the progress forms (Pingel, AA79-112-31-01, AA79-113-31-02, and AA79-114-31-01). In addition, this report contains information about the parental involvement process, such as conference participation, parent and teacher attitudes toward the conferences, and an examination of a possible relationship between student achievement and parent attendance at conferences (Pingel, AA79-115-31-11).

Parental Involvement Component Evaluation Results

Parent Conference Participation. The following information was compiled concerning parent participation in conferences:

1. Sixty percent (60%) of the students in grades K-8 had parents attend the fall conference at the school and 68% had parents participate in some form of conference, i.e., at school, telephone, home visit, etc. For spring conferences, 48% of the students had parents attend the conference at school and 63% had some form of conference.
2. As grade configuration increased (K-3, 4-6, 7-8) attendance at parent conferences decreased.
3. More parents attended fall conferences than spring conferences.

Parental Attitudes Toward Conferences. In order to gather information about parental attitudes toward parent conferences, questionnaires were given to all parents in grades K-8 who attended the fall and spring conferences. Parental attitude relative to items on the questionnaires was assessed by analyzing the responses from a sample of questionnaires stratified by subdistrict, by schools within subdistricts, and by grade levels within schools. Results for the fall conferences were as follows:

1. Parents who attended the fall conferences generally expressed favorable attitudes toward the conferences and toward parental involvement, with greater than 90% indicating such things as: (a) education is the responsibility of both school and parents, (b) the program will aid me to aid my child, (c) the program helped me understand my child's ability and needs, etc.

2. As grade level configuration increased (K-3, 4-6, 7-8), the favorable attitudes expressed decreased. This relationship held for subsequent parental involvement as indicated by information gathered during the spring conferences.

3. Fifteen percent (15%) of the parents in the sample expressed doubt in their ability to use the Tips for Parents Materials.

4. Seventeen percent (17%) of the parents in the sample felt that the instructional program was not challenging to their children.

5. Forty-eight percent (48%) of the K-3 parents and 51% of the 4-6 parents felt that their children should be included in the conference even though this was not mandatory. On the other hand, 46% of the 7-8 parents expressed doubt about the necessity of their children attending the conference where this was supposed to be the format.

Results of the spring conferences were as follows:

1. Parents who attended spring conferences generally expressed favorable attitudes toward the conference process, with greater than 80% responding positively to items such as: (a) satisfaction with the type of conference, (b) complete understanding of the information provided and the growth of the student, and (c) usefulness in helping to understand the reasons for parts and levels of my child's education.

2. Approximately 70% of the parents indicated that they used the Tips for Parents Materials, helped their children in reading, and helped their children in mathematics.

3. Approximately 44% of the parents of 4-6 students and 62% of the parents of 7-8 students did not confer with their children's subject-matter teachers. While 98% of the 4-6 parents and 95% of the 7-8 parents were satisfied with the conference they had had, 50% of the remaining 2% (4-6) and 5% (7-8) indicated a desire to speak to the subject-matter teachers.

4. Eighteen percent (18%) felt that other areas of their children's education should also have been discussed.

5. Consistent with data from fall conferences, 12% of the parents felt their children were not challenged by school.

Teacher Attitudes Toward Conferences. Questionnaires assessing teacher attitudes toward the Parental Involvement Component were received from a sample of 386 K-3 teachers, 314 4-6 teachers, and 201 7-8 teachers or language arts and mathematics. The samples were stratified by subdistrict, and by school within subdistrict. The sample represents a return rate of 60.7%.

The results of the questionnaires were as follows:

1. Teachers generally responded favorably toward parental involvement, the conferences, and the impact of the conferences.

2. Thirty-four percent (34%) felt that time allotted for conferences was insufficient.

3. Thirty-two percent (32%) reported that parents used the Tips for Parents materials; 55% felt that parents helped their children by some means.

4. Progress forms were reportedly too complex for the parents at all grade levels. These data included all four types of progress forms used.

5. According to the teacher questionnaire data, parents of students in the lower grades helped their children more, used the Tips materials more, and had a more positive attitude toward conferences than parents of students in higher grade levels.

Achievement Related to Parental Involvement. The sample of students used to investigate the relationship between student achievement and parent attendance at conferences was stratified by subdistrict, by school within subdistrict, and by grade level within the school. All grades, K-8, were represented. Comparisons between students whose parents attended conferences and students whose parents did not attend conferences were made using the progress forms as well as subtest data from the Iowa Tests of Basic Skills (ITBS). The following results were obtained:

1. There were lower percentages of students working below grade level for students whose parents attended conferences. These students also mastered larger percentages of objectives than did students whose parents did not attend conferences.
2. The average ITBS subtest grade equivalent score for every grade and subtest was higher for students when parents attended conferences.

Interpretation. The number of parents having some type of conference, whether at school, by phone, in the home, or otherwise, in both the spring and the fall for grade levels K-8 was comparable to the number for the 1977-78 school year for grade levels K-6. While 60% to 70% of the parents attended the conferences, the goal of 90% to 100% remains. It was not surprising to find that attendance at conferences in grade levels K-3 was greater than at grade levels 4-6, which was in turn greater than attendance at grade levels 7-8. The comparisons between grades K-3 and 7-8 were 75.2% versus 61.9% in the fall and 71.8% versus 49.3% in the spring. This may be attributable, in part, to the fact that the component has operated the longest at grade levels K-3 and that parents tend to be more concerned with the education of their children during the early years of schooling. Whatever the case may be, the trend is one which is not necessarily desirable and some efforts may be needed to attempt to effect a change. The decrease in conference participation at all grade levels from fall to spring may also represent an area where additional strategies could be employed. Further information should be gathered to determine: (a) why some parents of upper grade level students do not participate in parent conferences, and (b) why fewer parents attend the spring conferences than the fall conferences.

Since the data on parental attitude toward parent conferencing were consistent across subdistricts, the results were combined for discussion. Consistent with the data from 1977-78, results from fall and spring questionnaires for 1978-79 showed a generally positive reaction from parents toward parental involvement, the conferences, and the impact that these conferences had on helping them help their children. Again, however, a trend surfaced showing a decrease in the favorable responses from parents as grade level increased, with the least favorable attitude being apparent among the parents of students in the middle school grades (7-8). This attitude was coupled with information suggesting that these parents were less involved with their children in terms of instructional help in the home. It may be that parents of older students are more inclined to feel that education is the business of the schools and that they believe that they are not expert enough to be of much assistance at home. The fact that a majority of the parents of students in grades 7-8 did not speak with their children's subject-matter teachers may also have contributed to the less favorable response to other parts of the process. While this type of conferencing would be very difficult at the middle school level due to the large numbers of students seen daily by each teacher, perhaps some improvement could be made so that over time the parent(s) would have an opportunity to discuss their children's progress with someone other than the homeroom teacher.

The percentages of parents in the fall and in the spring who reported that they felt their children were not academically challenged were relatively small (17% and 12%, respectively). On the other hand, this type of attitude is one that the District would prefer not to see at all. Moreover, this attitude was expressed most strongly by the parents of middle school students (approximately 20% of this group in both fall and spring). It may be advisable to examine this type of response more closely with the idea of making adjustments if they are warranted.

While teachers' attitudes were generally favorable toward the conference process, many teachers found it difficult to accomplish the conferencing within the time allotted. This problem is recognized by District administrators and attempts are being made to improve the situation.

Since only 32% of the teachers felt that parents used the Tips for Parents materials while 55% of the teachers felt parents did help their children, it would follow that teachers felt that parents were using other materials and methods to help at home. These data were consistent with the parent responses of 26% and 43% reporting that they used the Tips for Parents or Parents as Partners materials very much or some, respectively. Some parents may not possess skills appropriate for the use of these particular materials.

A majority of the sampled teachers responding to the questionnaire felt that parents could be helped by simplifying the progress forms. This response held for all four types of forms and at all grade levels. In addition, one-third of the teachers felt that parents did not understand or understood only a little of the information presented. Perhaps this should be an area for further development.

The data showed that fewer students were below grade level and that students mastered more objectives if their parents attended conferences. Furthermore, students whose parents participated in conferences performed better on tests of the ITBS than students whose parents did not participate.

This was true for grade levels 1-8. It is difficult to determine the cause for this apparent relationship. Explanations could be either of the following: (a) parents of high achievers tend to take an active interest in their children's education, or (b) parent participation in a child's education causes the child to achieve better. The relationship may also be some combination of these and other factors. Further investigation would have to be made in order to arrive at a more definitive conclusion.

Achievement Results

The evaluation of the Partners in Reading, Writing, and Mathematics Programs were based on a random sample of students drawn from particular grade levels (K-8) within a sample of schools. The sample of schools was stratified by subdistrict. Approximately 50 students in grades K-6 and 100 students in grades 7-8 were selected from each of approximately 152 different schools.

The results which will be discussed on the following pages focus on end-of-year achievement as illustrated by the placement of the student on the progress forms for each of the content areas. It is expected that a child would have mastered all of the objectives at his/her grade level by the end of the year in order to be considered on grade level. If, for example, a second-grade student were working on a first-grade form, he/she would be considered more than a full year below grade level since he/she would have been expected to have completed all of grade two and had not even attempted the first objective on that form.

Partners in Reading Results. Major findings from the analysis of the Partners in Reading data are given below:

1. In grades K-3, the percentages of students below grade level were 0%, 1.0%, 48.5%, and 45.5%, respectively.

2. In grades 4-8, the percentage of students below grade level were 52.0%, 51.8%, 37.1%, 75.0%, and 66.5%, respectively.

3. A comparison between students in 1977-78 and 1978-79 showed an increase in the percentage of students below grade level in grades 1, 2, and 4 and a decrease in the percentage of students below grade level in grade 3.

4. Students who were performing on grade level mastered from 60.9% to 76.8% of the objectives for that level. Students performing below grade level generally mastered fewer of the objectives on the level and the percentages dropped the further below grade level the students were performing.

5. Compared with students in 1977-78, K-2 students in 1978-79 were performing at about the same level but were mastering more of the objectives for that level. Third-grade students in 1977-78 and 1978-79 were performing at approximately the same levels and were mastering approximately the same percentage of objectives at those levels.

6. Tables indicating the percentages of mastery, non-mastery, and unattempted objectives are included in Pingel, AA79-112-31-01. Objectives with high rates of non-mastery or those unrecorded should be examined with respect to the baseline curriculum.

Interpretation. The percentage of students below grade level in reading increased rather suddenly and sharply from 0% and 1.0% at grades K and one to 48.5% at grade two. The 0% at kindergarten is deceptive, however, since students are placed on that form automatically and thus cannot by definition be below grade level. There are then eleven objectives for a student to master during kindergarten and first grade in order to be placed on the first-grade form by the end of the first grade. If the student has attempted only one first-grade objective at the end of that grade, he/she will be considered on grade level while he/she is actually almost a full year behind. Thus, it is not until the second grade that the impact of students falling behind becomes apparent in terms of the percentages of students who still have not attempted a second-grade objective.

At first glance, it appears that the percentage of sixth-grade students below level (37.1%) and the percentage of eighth-grade students below level (66.5%) are decreases from the fifth- and seventh-grade percentages of 51.8% and 75.0%, respectively. At these grade levels, there are combination progress forms, i.e., fifth-sixth and seventh-eighth forms. Thus, if a student is in the sixth grade working on the fifth-sixth form, he/she is attributed with being on grade level even if he/she is actually working on objectives which are in reality on the fifth-grade level. It is not until the students should change to the seventh-eighth grade form in the seventh grade, but remain instead on the fifth-six grade form that the true picture of below-level performance emerges. It would be reasonable and conservative to expect that the fifth- and sixth-grade percentages would be similar and that the seventh- and eighth-grade percentages would be similar if the forms were structured level by level. Overall, at least one of every two students (grade levels 2-6) and three of four students (grade levels 7-8) were performing at least one full year below grade level.

The changes in the percentages of students performing below grade level at the end of 1977-78 compared with the end of 1978-79 in grades K-3 were inconsistent in terms of direction and magnitude. Since these data are not based on cohorts of the same students, it is difficult to interpret them. On the average, performance in grades K-3 was approximately the same for both years.

Students who performed on grade level mastered approximately 60% to 75% of the objectives on their level. This would be expected for the students to remain on grade level over a number of years. It is not surprising that students operating below grade level tend to master a smaller percentage of objectives at that level since slower rates of learning are the primary cause of below-level performance. It is of concern that as the level of performance gets farther below grade level, the percentage of objectives mastered at that level also becomes lower. In other words, students who are behind tend to grow farther and farther behind and to master less and less.

The comparison of the percentage of objectives mastered on level for K-2 students in 1977-78 with the K-2 students in 1978-79 was encouraging. While the levels were roughly the same, the students in 1978-79 seemed to be mastering more objectives. While one expects students to learn at differential rates, one of the goals of instruction is to keep that rate as rapid as possible so that the students master sufficient amounts of material by the end of their senior year of schooling.

The percentages of objectives not mastered or not attempted indicate that there is still some work to be done with curriculum and/or instruction or both. This is not surprising, however, and is an ongoing process.

Partners in Mathematics Results. Major findings from the analysis of Partners in Mathematics data are given below.

1. The percentage of students working below grade level increased as grade level increased. In grades one and two, the percentages were 1.2% and 8.0%, respectively. Grades three and four, five and six, and seven and eight were approximately 25%, 50%, and 75%, respectively.
2. Comparisons between percentages of students below grade level in grades K-6 in 1977-78 and 1978-79 showed decreases in grades one, two, and six, and increases in grades three, four, and five.

3. Students who were performing on grade level mastered between 46.4% and 81.0% of the objectives. Students who were below grade level in grades four through eight generally mastered fewer than 50% of the objectives for that level.

4. In grade levels K-3, students on grade level in 1978-79 mastered a larger percentage of objectives than did K-3 students on level in 1977-78. The reverse was true of students in grades 4-6 in 1978-79. Sixth-grade on-level students in 1978-79 also increased the percentage of objectives mastered over sixth-grade on-level students in 1977-78. Students who were below grade level in 1978-79 generally mastered a smaller percentage of objectives than did below-level students in 1977-78.

5. Tables indicating the percentage of mastery, non-mastery, and unattempted objectives are included in Pingel, AA79-113-31-02. Objectives with high rates of non-mastery or those unrecorded should be examined with respect to the baseline curriculum.

Interpretation. The results suggest that approximately one of every four third- and fourth-grade students, one of every two fifth- and sixth-grade students, and three of every four seventh- and eighth-grade students were working on mathematics material one or more years below grade level. As discussed in the previous section on reading, the sudden rise in percentages below grade level from grade one to grade two is the result of the small total number of objectives in grades kindergarten and one. Note, however, that the increase in mathematics was only to 8.0% below grade level while reading had increased to 48.5% below grade level at grade two. Likewise, mathematics maintains approximately 75% on grade level through grades three and four before it finally becomes 50% above and 50% below in grades five and six.

Like the data on reading, the percentages of students performing below grade level at the end of 1977-78 compared with the end of 1978-79 in grades K-6 were inconsistent in both direction and magnitude. Again, these are not cohort longitudinal analyses and thus little conclusive interpretation can be made.

Consistent with the results in reading, students on grade level generally mastered greater than 50% of the objectives on their level. As students fell farther and farther below grade level, they tended to master lower and lower percentages of the objectives for that level. Again, this means that students who fall behind tend to get farther and farther behind, resulting in a very slow rate of learning.

While the data suggest that the students in 1978-79 mastered a smaller percentage of objectives than in 1977-78, it is difficult to relate this to actual content material mastered. A revision of the mathematics baseline for 1978-79 increased the absolute numbers of objectives at levels two to six by 7 to 16 objectives. Thus, one could not say that students in 1977-78 and students in 1978-79 learned different amounts of content matter. It can be concluded, however, that students mastered more of the mathematics material expected of them in 1977-78 than did students in 1978-79.

Partners in Writing Results. Major findings from analysis of the Partners in Writing data are given below.

1. As grade levels increased the percentage of students performing below level changed as follows for K-8, respectively: 0%, 2.8%, 65.2%, 55.6%, 87.8%, 91.6%, 87.4%, 84.6%, and 85.5%.
2. A comparison between K-3 students in 1977-78 and K-3 students in 1978-79 shows that in every case, the percentage of students below grade level increased.
3. The percentage of objectives mastered at each grade level (K-8) ranged from 38.8% (eighth grade on level students) to 84.3% (kindergarten students). At first grade, on-level students mastered 40.9% of their objectives. As with mathematics and reading, students on level generally mastered a greater percentage of their objectives than did students working below their grade level.

4. While students in 1978-79 generally mastered greater percentages of objectives on the level at which they were working than did the students in 1977-78, the levels at which they were operating in 1978-79 were in and of themselves lower than the levels on which the students were operating in 1977-78.

5. Tables indicating the percentage of mastery, non-mastery, and unattempted objectives are included in Pingel, AA79-114-31-01. Objectives with high rates of non-mastery or those unrecorded should be examined with respect to the baseline curriculum.

Interpretation. Viewing the Partners in Writing results in light of Partners in Reading and Mathematics, the percentages of students working on form levels below grade level seem relatively large. Beyond grade three, for example, the percentages are all above 80%. It would appear that this is an area where the students do need a program which emphasizes academic need and parental involvement. It may be hoped that the existence of the program will, in fact, produce a reduction in these percentages over time. Overall, the data showed that more than one of every two second- and third-grade students and more than four of every five intermediate and middle school students were one or more years below grade level in writing.

The increases in percentages of students below grade level from 1977-78 to 1978-79 were consistent and thus imply that the students in grades K-3 generally performed at a lower level in 1978-79 than in 1977-78. Caution must be exercised in interpretation since this is not a cohort of the same students at any given grade level.

The percentages of objectives mastered by students on grade level were small relative to what has been seen for reading and mathematics. At a rate of 40% per first-grade level, it would be reasonable to see many students below level by the end of grade two since they would have to master 60% of the first-grade objectives before even attempting a second-grade objective.

At the end of the eighth grade, the on-level students were falling well below expectation, having mastered only 38.8% of the objectives. Again, it is clearly an area where great emphasis is warranted.

While it was encouraging to see large increases in percentage mastery of objectives at given levels during 1978-79 as compared with 1977-78, some of this may be due to confounding at grade levels two and three. Students in 1978-79 were performing at lower levels than students in 1977-78 but were mastering more objectives at those levels. It would be reasonable to interpret these data to mean that students may have learned more by being placed at lower levels and thus have actually mastered more of the material. On the other hand, the decrease in level of performance may have made work and the corresponding tests somewhat easier for some students thereby increasing the average perentage of mastery. Further investigation would be necessary to determine the actual reasons for the trend.

Summary

In general, the Partners in Learning Program is being implemented as designed and seems to have been creating a reasonable bond of shared responsibility among the home, the school, and the community by communicating students' academic achievements and needs to parents. The processes appear to have been most successful for the early childhood grade levels where the Program has been functioning for the longest period of time. Achievement data gathered as a result of the Partners in Learning process indicated that there were students in the District at all grade levels who did not respond to reading, mathematics, and writing instruction at a level desired by the District. Awareness of this fact on the part of teachers, parents, students, and administrators is essential to the alleviation of this problem.

Some of the major findings of the combined evaluations of the components of the Partners in Learning Program are as follows:

1. Sixty-eight percent (68%) of the students in grades K-8 had parents participate in a fall conference of some kind, and 63% had parents participate in a spring conference. Participation on the part of parents decreased noticeably as grade level increased, with the lowest participation among middle school parents. More parents at all grade levels participated in fall conferences than in spring conferences. Reasons for these patterns were suggested and follow-up is advised.

2. Parents generally reacted favorably toward the conferences and toward the parental involvement process. As grade level increased, again, the favorable attitude decreased as did subsequent involvement with the students' education. The K-6 parents expressed a desire to include the student in the conference while the 7-8 parents felt that discretion should be used (the format for K-6 was parent-teacher and for 7-8 was parent-teacher-student). Parents of 4-8 students expressed concern over not being able to confer with the subject-matter teacher. Finally, some parents expressed concern over their ability to use the Tips for Parents and Parents as Partners materials.

3. Teachers generally responded favorably toward parent conferences, parental involvement, and the impact upon students. Concern surfaced about time allotted for conferences, the complexity of the progress forms, and the use of the Tips materials. There was, again, evidence to suggest a decrease in parental involvement as grade level increased.

4. Students whose parents participated in parent conferences mastered larger percentages of objectives, were closer to grade level, and scored better on ITBS tests at all grade levels than students whose parents did not participate. The cause of this relationship could not be readily ascertained.

5. As grade level increased, the percentages of students performing at a level below their grade level increased in reading, mathematics, and writing. Mathematics was the strongest of the three content areas at the lower grade levels while writing showed the lowest performance levels. In all instances, as students fell further and further below level, they mastered a smaller percentage of the objectives at the level on which they were working. Changes in percentages of students below grade

level in mathematics and reading between 1977-78 and 1978-79 were inconsistent; increases in some instances and decreases in other instances. In writing, there were consistently higher percentages of students below grade level in 1978-79 than in 1977-78 which confounded the fact that students in 1978-79 mastered more objectives at their level of operating than students in 1977-78. It is difficult to interpret these non-cohort longitudinal data after only one year of comparison. Perhaps, additional data will shed more light or produce some identifiable causes for the trends.

6. There remain some objectives in all three content areas which show high rates of non-mastery or are unrecorded. These must continue to be examined so that curriculum and/or instruction can be revised if necessary, or so that the objectives themselves can be refined appropriately.

References

Pingel, Kurt R. *Evaluation of the Reading Component of the Partners in Learning Program, 1978-79* (AA79-112-31-01). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, February 1980.

Pingel, Kurt R. *Evaluation of the Mathematics Component of the Partners in Learning Program, 1978-79* (AA79-113-31-02). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, February 1980.

Pingel, Kurt R. *Evaluation of the Writing Component of the Partners in Learning Program, 1978-79* (AA79-114-31-01). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, February 1980.

Pingel, Kurt R. *Evaluation of the Parental Involvement Component of the Partners in Learning, 1978-79* (AA79-115-31-11). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, February 1980.

An Interpretative Analysis of the Results of the District's Basic Objectives Assessment Testing Program[1, 2]

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The Dallas Independent School District's literacy testing program is designed to be administered at grades 3, 6, and 8 through 12. The system, when completed, will have built-in mechanisms to insure that students do not reach the twelfth grade without having had the opportunity to master basic functional literacy skills.

At the early grades (3, 6) the tests measure basic skill areas as specified by the baseline documents. Students will be assigned special instruction based on the results of these tests. Since functional literacy is an application of basic skills, it is essential that early skill development be monitored and corrections made prior to assessment of functional literacy. Because functional literacy is generally defined as somewhere between the sixth and ninth grade levels, it would be extremely difficult and inappropriate to measure it in elementary school.

By 1981 all graduates of the Dallas Independent School District will be required to pass functional literacy tests in reading, mathematics, citizenship, and science/health. In order to operationalize this directive of the Board of Education, a great deal of development work in both testing and curriculum must be completed. It is essential that any high school competency testing program include a system such that no student reaches the twelfth grade without having had the opportunity to master the requisite skills for meeting the requirements. Some characteristics of the Dallas competency testing program include:

1. The high school competency testing program actually begins in the third grade.
2. The student is given numerous opportunities to master the basic skills that are requisite to functional literacy, as well as functional literacy skills.
3. Item pools are available so that students might take functional literacy tests as often as required. Functional literacy tests are scheduled once a year.
4. At the secondary level, supplementary instruction is focused specifically on functional literacy.

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[1] Discussion of the technical characteristics of the BOAT is forthcoming in report #ST79-500-21-05 by Dean G. Arrasmith. This report will be completed in June.

[2] Most of the data for this paper were drawn from reports by James A. Meier, Basic Objectives Assessment Tests Profiles, 1979, reports #IR79-009-31-26 through IR79-009-36-26.

Background of the Basic Objectives Assessment Tests (BOAT)

The BOAT is a system-wide testing program through which the District is guaranteeing that all students so certified will meet a level of competency that has been determined to be the minimum to function effectively in our society. At the grades 3 and 6 levels, the BOAT measures basic skill achievement and is patterned after the baseline documents. Only reading and math results are reported here since the science and social studies baselines are undergoing further development and the tests are still in the validation phase. Students who do not achieve at least fifty percent of the items correct on these tests should be considered for special remediation.

The BOAT for grades 8 through 12 emphasizes the application of essential skills to common printed materials and mathematical problems, basic science and health problems, and citizenship information encountered in everyday life. This test will be used to certify that students are at least minimumly competent. Attainment of a test score of at least 70% (87 or more correct answers out of 125 test questions) is a graduation requirement beginning with the 1980-81 school year.

The BOAT uses multiple-choice test questions with four response options. Context-dependent questions involving short reading passages, charts, forms, and maps commonly found in the urban community are used where possible and appropriate.

Implementation of the BOAT program began during the 1978-79 school year. All students in the District in grades 8 through 12 were tested except for special education students who are normally exempt by policy from system-wide testing. The BOAT was administered between January 29 and February 9, 1979.

Students in grades 8, 9, and 10 who attained at least the 70% criterion will be certified as meeting the BOAT graduation requirement. Students who did not attain the criterion will be retested next year with an alternate form of the BOAT. Prior to retesting, these students will be offered specific instructional aid in the necessary skills and knowledge to attain at least the minimum criterion on the BOAT. Students will be tested each school year until they attain at least the 70% criterion or until they reach the end of the twelfth grade. In this manner, students in tenth grade will have three opportunities to attain the criterion, students in ninth grade will have four opportunities, and students in eighth grade will have five opportunities to pass the BOAT.

Test Reliability and Validity

The BOAT, Level 8-12, was developed from a set of objectives that represents the application of skills and knowledge that students need to function effectively in an urban community. Objectives were identified through a series of steps commencing with a coordinated series of system-wide studies conducted by the Department of Research, Evaluation, and Information Systems during the 1974-75 school year. These studies, conducted in the areas of mathematics, science, social studies, and language arts, presented teacher, administrator, and student perceptions as to the relative importance of various basic and higher order skills (Denton and Birkelbach, 1975a, 1975b, 1975c, 1975d; Lym, 1975). From this beginning, national reviews of the literature were conducted to determine the characteristics of existing functional literacy testing programs. Finally, guidelines were established from the aforementioned endeavors, objectives were identified, and personnel from the District's Learning Department were asked to review those objectives. In reviewing the objectives, Learning Department personnel were asked to do so within the following guidelines:

1. Each objective would involve the application of an essential skill that is contained in the DISD Baseline Curriculum.
2. The application of an essential skill would be judged to involve an important operation or important knowledge necessary to function effectively in an urban community.
3. Each objective would be measurable by a paper and pencil test.

Objectives were then grouped by the type of application specified. The objectives fit into seven "functional application" areas. These areas included:

1. Consumerism: to exchange money for goods and services of an appropriate quality and usefulness.
2. Community: to use to advantage the services and systems of a municipality.
3. Medical: to care for the health of one's family and self.
4. Home: to establish the comfort, safety and security of one's residence.
5. Employment: to be able to obtain and hold an appropriate level of employment.
6. Government: to deal effectively with the requirements and regulations imposed by government agencies.
7. Information Sources: to identify, obtain and use to advantage information available from private and public sources.

Each functional application and objective was weighted for importance by the assignment of a specific number of test questions. This final structure of objectives and number of test questions was reviewed again by the personnel in the Learning Department and was reported to the DISD Board of Education (Arrasmith, et al., 1978). This structure of objectives served as the content specifications for developing the BOAT, Level 8-12.

Test questions were written for each identified objective following general specifications for the questions. Item development specifications were:

1. Each question would be an application or context dependent question as specified by the related objective.

2. The question format would be multiple choice with four possible answers.

3. Questions would involve only the literal and inferential levels of thinking.

4. Questions would not involve abstract thinking or value systems.

5. Questions would avoid culturally "loaded" contexts.

Test questions were pilot tested with DISD students to help identify necessary revisions and inadequacies. Following the pilot tests, pools of ten screened questions for each objective were established. From these pools, the questions for BOAT, Level 8-12, Form 1 were selected. This form of the test will serve as the paradigm after which additional forms of the test will be developed.

The final pilot testing of the BOAT, Level 8-12, Form 1 was conducted in five high schools, one school randomly selected within each subdistrict. Test reliability was estimated by Kuder-Richardson 20 and yielded a .96 coefficient. This coefficient indicates a high level of internal consistency. Item difficulty and discrimination indices were also studied to locate questionable items.

In addition, the test was rated by the personnel of the Learning Department for the appropriateness of each question as a measure of its related objective. Ratings were made on a four-point scale of (1) very appropriate, (2) appropriate, (3) inappropriate, and (4) very inappropriate. Ratings were completed by eight raters. Only two test items were rated 2.0 (appropriate) or below. All of the other questions were rated above 2.0.

These item data, difficulty and appropriateness, were used to identify where changes in test questions may have been needed. Low difficulty and/or low ratings were used to flag questions for investigation. Of the 20 questions flagged, 9 were revised or replaced. The remaining 11 questions were left unchanged and appear to be good, albeit difficult, questions.

Thus Form 1 of the BOAT, Level 8-12, appears to be an extremely reliable test that possesses a great deal of face validity. Its objectives were determined on the basis of a great deal of professional and student input, and the test measures those objectives well.

Results

The results of the recent BOAT test administrations fall into four natural areas of discussion. These include:

1. BOAT Reading and Mathematics, grades 3 and 6

   These tests have been previously validated and provide indicators of student mastery of baseline skills in reading and mathematics.

2. BOAT Science and Social Studies, grades 3 and 6

   These tests are still in the validation process and will not be reported here since the reliability and validity of the tests have not been established.

3. BOAT Minimal Competency, grades 11 and 12

   These are the results of the administration of the BOAT, Form 1, to school year 1978-79 juniors and seniors. Since these students do not have to pass the BOAT to graduate, these data may be viewed as a conservative estimate as to where the District is in fulfilling its goal of insuring that all students are functionally literate at graduation.

4. BOAT Minimal Competency, grades 8-10

   These are the students that must pass the BOAT to graduate. These data provide the District with information as to where it must concentrate its minimal competency instruction if it is to meet its goal of insuring the functional literacy of all students upon graduation. The BOAT at grades 8-12 is actually a functional literacy objectives assessment test.

BOAT Reading and Mathematics,
Grades 3 and 6

BOAT results are presented in three tables. Table 1 presents the mean percentage of items correct by ethnicity and subdistrict for grades 3 and 6.

Table 1

Mean Percentage of Items Correct by Ethnicity and Subdistrict, Grades 3 and 6

	District	White	Black	Hispn	Total
Grade 3	NW	87	66	75	76
	NE	84	65	71	74
	SE	80	67	73	74
	EOC		70		70
	SW	80	73	71	75
	DIST	83	69	72	74
Grade 6	NW	85	64	72	74
	NE	82	64	76	74
	SE	77	65	71	72
	EOC		66		66
	SW	79	71	71	73
	ALT	85	72	73	74
	DIST	80	66	72	72

Thus the average student in the District got 74% of the BOAT items correct at grade 3 and 72% correct at grade 6. Since these items measure basic skills, not minimal competency, this represents a good achievement record for District elementary students. Particularly noteworthy is that District students do about as well on sixth grade objectives as they do on third grade objectives, a pattern that is often not in evidence and that suggests that progress is being made toward overcoming the so-called cumulative deficit.

Table 2 examines the percentages of students mastering differing percentages of test items. Statistics are presented by subdistrict.

Table 2

Percentages of Students Mastering Differing Percentages of BOAT Test Items, Grades 3 and 6

	District	Specific Percentages of Total-test Items							
		20%	30%	40%	50%	60%	70%	80%	90%
Grade 3	NW	99	96	93	87	77	71	54	30
	NE	99	95	91	83	74	67	51	28
	SE	99	96	92	85	76	68	49	23
	EOC	98	94	90	80	69	59	40	15
	SW	99	97	94	87	76	67	49	23
	DIST	99	96	92	85	74	66	49	24
Grade 6	NW	99	97	94	87	76	65	46	19
	NE	99	97	95	87	76	66	46	19
	SE	99	97	94	86	74	63	41	13
	EOC	99	96	91	79	61	48	26	7
	SW	99	98	96	89	77	66	43	15
	ALT	99	99	98	90	79	67	44	14
	DIST	99	97	94	86	73	62	40	15

Perusal of Table 2 again suggests an acceptable level of performance for District elementary students. Given that the Elementary BOAT measures baseline objectives, 50% of the items correct would indicate an acceptable level of performance. District-wide 85 and 86 percent of the students in grades 3 and 6, respectively, mastered 50% of the items measuring baseline objectives in reading and mathematics. Furthermore, only minimal differences between reading and mathematics performance were noted (see Meier, 1979a, 1979b, 1979c, 1979d, 1979e, 1979f).

Table 3 presents the number and percent of students tested. Since the tests were administered only once, it was expected that some percentage of students would have been absent and thus not received them. Perusal of Table 3 suggests that approximately six percent of the student population of grades 3 and 6 did not take the test.

Table 3

Number and Percentage of Students Tested, Grades 3 and 6

Grade	White		Black		Hispn		Total	
	N	%	N	%	N	%	N	%
3	3129	93	5150	95	1839	93	10226	94
6	2745	94	4751	96	1536	92	9107	94

Each school principal has received a record of individual student performance on the BOAT as well as summaries of total performance within her/his school. This feedback will be used in structuring programs of remediation at the elementary level to insure that students have the necessary prerequisites to master the BOAT by the time they enter the District's secondary schools. On the basis of existing data, it can be said that this is a realistic goal attainable within the immediate future.

BOAT Minimal Competency, Grades 11 and 12

All students in grades 11 and 12 during the 1978-79 school year, except those exempted by District policy, were eligible to participate in the BOAT testing program. Their results provide an excellent representation of where the District stands relative to its 1981 graduation requirement. This representation, however, must be taken as conservative since these students were under no compunction to do well on the BOAT.

Table 4 presents the mean percentages of items correct by ethnicity and subdistrict for grades 11 and 12. While perusing this table the reader should recall that a student must get seventy percent of the items correct to pass the test.

Table 4

Mean Percentages of Items Correct by Ethnicity and Subdistrict, Grades 11 and 12

	District	White	Black	Hispn	Total
Grade 11	NW	90	69	76	83
	NE	89	70	78	82
	SE	83	66	74	76
	EOC		67		67
	SW	86	71	75	78
	ALT	88	76	80	80
	DIST	88	69	76	78
Grade 12	NW	91	70	79	85
	NE	90	74	81	85
	SE	85	69	77	79
	EOC		71		71
	SW	88	71	79	80
	ALT	90	77	82	80
	DIST	89	72	79	81

By grade 12, the mean percentage of items correct was above the 70% cutoff for all ethnicities within the District. The data in this table also suggest that, when ethnicity is controlled for, there is no appreciable differences in percentages of items mastered among the various subdistricts.

Table 5 presents the percentages of students mastering differing percentages of test items. Once again, statistics are presented by subdistrict.

Table 5

Percentages of Students Mastering
Differing Percentages of BOAT
Test Items, Grades 11 and 12

		Specific Percentages of Total-test Items							
	District	20%	30%	40%	50%	60%	70%	80%	90%
Grade 11	NW	99	99	98	95	91	81	68	43
	NE	99	99	98	96	90	81	66	40
	SE	99	98	96	92	84	71	52	21
	EOC	99	98	94	84	68	47	23	4
	SW	99	99	98	95	87	72	52	24
	DIST	99	99	97	93	86	73	55	29
Grade 12	NW	99	99	99	97	93	86	73	48
	NE	99	99	99	98	95	87	76	48
	SE	99	99	97	94	88	76	58	27
	EOC	99	99	97	90	78	57	34	10
	SW	99	99	99	96	90	76	58	30
	ALT	99	99	99	96	93	81	61	25
	DIST	99	99	98	95	90	79	63	36

Thus, 79% of the students in the twelfth grade who took the test passed it. Given that 16% of the students carried on the rolls of the twelfth grade did not take the test, and that there was no real pressure on twelfth graders to do well on the test, the 79% is probably a good approximation of the District's current standing. This means that if the graduate requirement were effective for the 1978-79 school year, approximately 21% of District seniors would need remediation prior to graduation.

BOAT Minimal Competency, Grades 8, 9, and 10

Students in grades 8, 9, and 10 during the 1978-79 school year took the BOAT, Form 1, for the first time. These students differ from their eleventh and twelfth grade counterparts in that they must pass the

BOAT to graduate from a Dallas high school. School principals and Learning Department personnel have individual student performance records on the BOAT and work is in progress to design the instructional systems necessary to prepare students to meet this graduation requirement.

Table 6 presents the mean percentages of items correct by ethnicity and subdistrict for grades 8, 9, and 10.

Table 6

Mean Percentages of Items
Correct by Ethnicity and
Subdistrict, Grades 8, 9, and 10

	District	White	Black	Hispn.	Total
Grade 8	NW	80	53	60	66
	NE	76	51	62	66
	SE	70	54	61	63
	EOC		58		58
	SW	72	59	58	63
	ALT	74	63	60	66
	DIST	75	56	60	63
Grade 9	NW	83	55	64	70
	NE	81	62	71	73
	SE	74	59	66	68
	EOC		59		59
	SW	76	61	66	67
	ALT	82	68	71	72
	DIST	80	60	69	68
Grade 10	NW	87	62	72	78
	NE	86	68	73	79
	SE	80	63	72	73
	EOC		64		64
	SW	81	67	71	73
	ALT	85	75	75	78
	DIST	84	66	72	75

Mean percentages of items correct were 63, 68, and 75 for grades 8, 9, and 10, respectively.

Table 7 presents the percentages of students mastering differing percentages of test items. Once again, statistics are presented by subdistrict.

Table 7

Percentages of Students Mastering Differing Percentages of BOAT Test Items, Grades 8, 9, and 10

		Specific Percentages of Total-test Items							
	District	20%	30%	40%	50%	60%	70%	80%	90%
Grade 8	NW	99	96	87	76	62	47	30	11
	NE	99	95	87	76	64	48	31	10
	SE	99	95	87	72	58	39	21	6
	EOC	99	94	83	67	48	27	10	2
	SW	99	97	89	76	57	37	19	3
	DIST	99	95	87	74	58	39	22	6
Grade 9	NW	99	97	92	83	70	56	39	17
	NE	99	97	93	86	77	64	46	18
	SE	99	97	93	82	69	51	29	8
	EOC	99	94	86	70	50	26	10	1
	SW	99	98	92	82	68	49	26	7
	ALT	99	99	97	90	79	59	35	10
	DIST	99	97	92	82	69	52	33	11
Grade 10	NW	99	99	96	91	83	72	58	30
	NE	99	99	97	93	87	75	57	28
	SE	99	98	95	89	80	63	42	19
	EOC	99	97	91	79	61	40	18	4
	SW	99	99	96	90	80	63	39	14
	DIST	99	98	96	90	81	66	47	20

Perusal of Table 7 suggests that 39, 52, and 66 percent of students in grades 8, 9, and 10, respectively passed the BOAT. If one includes those students who answered fifty percent of the items correctly, using the rationale that they scored well enough to encourage speculation that they will pass on the next test administration, those numbers become 74, 82, and 90, respectively. Thus, the District must focus serious remediation on approximately 10% of its current tenth graders and some remediation on approximately 18% of its current ninth graders.

However, the story presented in the previous paragraph is not complete. The BOAT tests were administered in the same manner as other system-wide tests. That is, whether or not individual students had opportunity for make-up testing was largely dependent on the schools. The data presented in Table 8 suggest that a testing center must be established to test students who were absent on the day that the test was administered.

Table 8

Number and Percentage of
Students Tested,
Grades 8 through 10

Grade	White N	White %	Black N	Black %	Hispn. N	Hispn. %	Total N	Total %
8	3065	91	4935	91	1450	88	9552	91
9	3686	88	4969	79	1334	84	10076	83
10	3665	90	4184	82	1091	88	9025	86

Although children are often carried on school rolls in spite of extended absences, the data presented in Table 8 suggest that there is some group of children who are actively enrolled in school who did not take the BOAT. A system must be established to afford them this opportunity.

The first round of BOAT testing is now complete. With the completion of this first round of testing there are some decisions that must be made. These decisions include:

1. What alternatives should be provided for high school students who do not pass the BOAT?
2. Will the BOAT continue to be administered by classroom teachers, or should test administrators be used?
3. Should a BOAT make-up testing center be established?
4. How will the District respond curricularly and instructionally to the BOAT results?

Answers to these questions and ones like them will determine whether or not the BOAT will be a positive force in the lives of Dallas children.

References

Arrasmith, Dean G., Barber, Jerome, and Montgomery, Patricia A. Standardization, Expansion, and Validation of Criterion-Referenced Test Development (BOAT) in Reading, Mathematics, and Science/Health, ST79-004-31-26, August, 1979, 4 pp.

Denton, William T. and Birkelbach, Cathy. System-wide Curriculum Assessment: Language Arts, RE75-564, August, 1975, 133 pp.

Denton, William T. and Birkelbach, Cathy. System-wide Curriculum Assessment: Social Studies, RE75-565, August, 1975, 82 pp.

Denton, William T. and Birkelbach, Cathy. System-wide Curriculum Assessment: Mathematics, RE75-566, August, 1975, 95 pp.

Denton, William T. and Birkelbach, Cathy. System-wide Curriculum Assessment: Science, RE75-567, August, 1975, 81 pp.

Lym, C. LaVor. System-wide Assessment: Students and Educators, RE75-562, August, 1975, 45 pp.

Meier, James A. Basic Objectives Assessment Tests Profiles, 1979, Northwest Subdistrict, IR79-009-31-26, May, 1979, 7 pp.

Meier, James A. Basic Objectives Assessment Tests Profiles, 1979, Northeast Subdistrict, IR79-009-32-26, May, 1979, 7 pp.

Meier, James A. Basic Objectives Assessment Tests Profiles, 1979, Southeast Subdistrict, IR79-009-33-26, May, 1979, 7 pp.

Meier, James A. Basic Objectives Assessment Tests Profiles, 1979, East Oak Cliff Subdistrict, IR79-009-34-26, May, 1979, 6 pp.

Meier, James A. Basic Objectives Assessment Tests Profiles, 1979, Southwest Subdistrict, IR79-009-35-26, May, 1979, 7 pp.

Meier, James A. Basic Objectives Assessment Tests Profiles, 1979, Alternative Schools, IR79-009-36-26, May, 1979, 7 pp.

An Interpretative Analysis of the Texas Assessment Project (TAP) Results

Michael R. Vitale

The purpose of this report is to provide a conceptual framework within which the District can view the implications of the 1978 Texas Assessment Project (TAP) as conducted by the Texas Education Agency. In doing so, it must be stressed that the focus of the report is upon what the results may suggest for local practice rather than upon the TAP data itself, for which many summaries presently exist (see Appendix A). The analysis presented here acknowledges the contributions of similar interpretative endeavors at the state and local levels. Included among these are: (a) position-paper drafts prepared by the Urban Advisory Council; (b) materials prepared by the Accountability/Renewal Project presently being completed by the Urban Curriculum and Joint Urban Evaluation Councils; (c) discussion by numerous representatives of the Texas Education Agency; and (d) reports and working papers of the District's Applied Research Program.

The analysis that follows is organized into three sections. First, the TAP itself is discussed as a component of state accountability. Second, factors for interpreting the TAP data are presented. Third, the implications for improving the District's instructional program are discussed. In considering these sections, the reader should note that the TAP, except for specific achievement information from an interpretative standpoint, parallels existing local and national achievement studies.

Overview of TAP Project

TAP Design. The TAP was conducted by the Texas Education Agency to determine the performance of Texas students in the basic skills areas of reading (grades 6 and 11), mathematics (grades 6 and 11), writing (ages 9, 13, 17), and citizenship (ages 9, 13, 17). In mathematics and reading, both norm-referenced and criterion-referenced tests were administered and reported by grade level. In writing and citizenship, tests paralleling those developed by the National Assessment Program which are normed by student age (rather than grade level) were adopted. Overall, some 113,000 students on 2,200 individual campuses were tested within a "region-based" sampling plan in which no student attempted more than one test. Thus, as part of the sampling design, care was taken to insure that major comparisons of interest at the state level could be made (e.g., Region vs. Region; Urban vs. Suburban vs. Rural; Black vs. Mexican-American vs. Other) within the limits of available resources. However, the TAP sampling plan was not designed to allow meaningful comparisons or interpretations of individual districts or among campuses within districts.

TAP and Accountability. The data produced by the TAP clearly represent a state-wide achievement profile in reading, mathematics, writing, and citizenship, and are thus of obvious importance to both the development and the evaluation of state educational policy. At the same time, although not directly interpretable at the local level, certain kinds of demographic information as reported can be brought to bear upon interpretations of local achievement and problems. For example, since urban districts have a similar demographic makeup; it is likely that they share many common problems which they can solve as part of a coordinated effort (with or without state impetus). The role of the TAP within such locally-undertaken efforts is to provide a focus upon selected educational goals for a renewal effort, while concomitantly serving as an accountability agent for the state's educational programs.

Overview and Interpretation of TAP Results

State Trends. In general, the overall achievement results in each of the major content areas (see Appendix A) revealed some satisfactory student achievement. However, as could be expected, performance on more complex skills that require combinations of abilities (e.g., reading and mathematics, problem-solving) fell below that of simple prerequisite skills.

In interpreting these findings, it is important to emphasize that the component skills included as a part of TAP were considered to be appropriate for mastery by students who, within their classification (grade or age) had achieved satisfactory progress. However, this interpretation does not apply strictly to the complementary norm-referenced data reported. Thus, all criterion-referenced data reported in TAP indicating lack of student mastery clearly reflect instructional-program deficiences in the sampling unit described (e.g., region, urban, ethnic category). So while being highly successful in certain areas, the state instructional program was identified as clearly inadequate in others. (See Appendix A)

Urban vs. Texas TAP Achievement. In general, urban districts performed much lower than other districts (e.g., suburban, rural) across the state. At the same time, it is clear that the differential performances observed can be explained in terms of demographic characteristics of students. By ethnicity[1], students in urban and non-urban districts performed at about the same level of achievement on norm-referenced tests, with Others (Anglos) outperforming Mexican-Americans, who, in turn, outperformed Blacks, Thus, if urban and non-urban districts had the same proportions of students in each ethnic category, the performance of urban and non-urban districts should have been approximately the same.

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[1] Ethnicity is considered here as statistically-related rather than as causally-related to student achievement.

While both urban and non-urban districts can be viewed as "successful" with Other (Anglo) students, they can also both be viewed as "unsuccessful" with minority students. Therefore, in experiencing some limited success, the instructional programs as implemented are clearly not sufficient to produce a mastery of basic skills for minority students. By simply having much larger proportions of "high-need" minority students, the instructional programs of urban districts will require a larger renewal effort to assure that all of their students master basic skills within acceptable educational timelines.

Implications of TAP for Achievement Improvement

The major contribution of the TAP toward guiding the improvement of instruction is to confirm (within a state framework) the well-established relationship between the student demographics of a school district and the requirements for success of its educational program. In general, the conditions of implementation of present programs that are effective for students having average educational aptitude upon their enrollment are not satisfactory for "high-need" students. Rather than suggesting that such "high-need" students will require a totally different instructional program, it is more likely that augmenting existing programs so that they can better meet the learning requirements of these particular student populations should be undertaken.

Table 1 indicates a number of areas whose further development in a technological sense could result in the improved effectiveness of existing instructional programs. For example, existing urban (or District) efforts within each identified category can be considered generally adequate for the average achieving students. However, it seems clear that better explicated and research-validated processes brought to such areas as skill

Table 1

Administrative Framework for Effective Instruction

Level of Focus	Major Instructional Concerns (Selected Examples)
Student	Identify achievement/other objectives Design instructional scope and sequence Plan sequence of learning activities Identify necessary student learning conditions Identify motivational needs/requirements Identify student self-learning skills
Classroom/Teacher	Manage program implementation Implement material under appropriate learning conditions Monitor individual achievement progress Remediate individual instructional deficiencies
Campus Administrator	Direct instructional program Monitor delivery of materials Monitor materials usage and instructional conditions Monitor student progress (group) Monitor teacher performance
Central Administrator	Direct campus instructional program Provide management support Monitor implementation of program Monitor student achievement Modify instructional scope and sequence

sequencing, student motivation, student learning-to-learn skills, learning conditions, and management of the classroom environment would likely improve instructional effectiveness. In the remainder of this paper some major urban problems viewed from an administrative standpoint are reviewed, followed by some specific recommendations for the District itself - many of which are presently being implemented.

Major Problems in Urban Instruction. Within the framework shown in Table 1, a number of major urban instructional problems may be identified. As a student-focused condition of learning, it seems clear that instructional time allocation within the classroom is a major instructional concern. It seems likely that to the degree this is true, lack of effective use of available instructional time in school would certainly differentially impact the "high-need" student. School attendance, student and teacher mobility, continuity of instruction, and parental support and/or motivation of instructional activities in the home are factors that work to suppress the achievement levels of "high-need" students.

In addition to factors typically related directly to the student, other important related requirements come about from existing levels of staff training. For example, it is likely that teachers, administrators, and other instructional personnel should require refined and/or elaborated skills in each of the areas mentioned in Table 1 in order to be maximally effective with "high-need" students. While existing skills are effective with students entering school with average academic aptitude, such skills are not adequate for dealing with the present demographic patterns in urban schools.

Specific Implications for the District. Numerous programs presently exist within the District to meet local needs documented at the state level by the TAP. Included within these are efforts bearing upon management methods, planning, instructional implementation, staff-development, research, evaluation, and materials development. Rather than discussing these programs per se, the remainder of this section will consider some major concerns regarding their functions as part of a local accountability/renewal program.

First, commitment of the District to any renewal program implies a long-term perspective. As part of this perspective, the District should (and it is) be working to accumulate a research-validated knowledge base through which instruction can be improved in the major categories as identified. In the long-term planning sense, the District must continue to identify and support operational goals for instructional improvement specified on a short-term basis, as well as goals for research and development strategies to be conducted over a longer time span. Both are important components in local accountability as long as significant instructional problems remain.

Second, District management practices must continue to emphasize the impact of administrative decisions upon the conditions required for learning by the individual students. As more and more information becomes known in this area, management decision-making processes should increasingly emphasize formal, cost-benefit analyses for these learning process areas. Similarly, intra-District staff training programs should be focused toward the specific teacher/administrative skills at the classroom/campus levels directly impacting individual learning conditions. This includes classroom instructional management, student motivation, and instructional supervision.

Third, within a framework of long-term and continued educational improvement, the District should continue its efforts to build simultaneously a research base for implementing classroom instruction and the development of needed instructional materials for new priority areas. In the long run, both the "high-need" and average student will benefit through progress within these particular complementary areas.

Appendix A

Summary of Texas Assessment Project Findings

SUMMARY REPORT: READING AND MATHEMATICS

TEXAS ASSESSMENT PROJECT

TEXAS EDUCATION AGENCY, AUSTIN, 1978

SUMMARY OF MAJOR FINDINGS

Analysis of the data from the tests shows that many sixth and eleventh grade students in Texas are making satisfactory progress toward the achievement of essential learning objectives in reading and mathematics, and that their achievement is comparable to that of their counterparts in the nation. At the same time, substantial numbers of students are not attaining the desired and expected levels of achievement of essential learning objectives in reading and mathematics.

The following general observations emerged from the analysis of the data:

1. Students from families with average or above average income performed significantly better than students from low income families in both reading and mathematics.

   - Students from average or above average income families as a group scored above the national average on all the norm-referenced tests of reading and mathematics; students from low income families attained average scores well below the national norms, near the lowest quartile on several of the subtests.

   - On 43 of the 44 objectives measured by the criterion-referenced tests of reading and mathematics, higher percentages of sixth and eleventh graders from average or above average income families demonstrated mastery than did students from low income families.

2. The greatest differences in the achievement of students in both reading and mathematics were found among the three ethnic groups studied: black, Mexican American, and "other." (The "other" category consists almost entirely of white students.)

   - Scores of "other" students in the sixth grade were above the national norms on all the norm-referenced tests of reading and mathematics. Their average score for total reading was at the 58th percentile; for total mathematics, at the 59th percentile.

     "Other" students in grades six and eleven demonstrated high levels of mastery (90 percent or higher) of 20 of the 44 objectives measured by the criterion-referenced tests of reading and mathematics.

   - Average scores of Mexican American sixth graders on the norm-referenced tests of reading and mathematics were below the national norms - at the 29th and 38th percentiles respectively - and below the scores of "other" students on all of the norm-referenced subtests of reading and mathematics. The percentage of sixth and eleventh grade Mexican American students attaining mastery of the objectives measured by the criterion-referenced tests in reading and mathematics were lower than those of "other" students on all of the 44 objectives measured. Mexican American students attained a high degree of mastery (90% or higher) on 4 of 44 objectives.

- The average scores of sixth grade black students as a group were below national averages on the norm-referenced tests in both reading and mathematics - at the 28th and 30th percentiles respectively - and were lower than the average scores of both Mexican American and "other" students. Percentages of mastery attained by sixth and eleventh grade black students on the objectives measured by the criterion-referenced tests of reading and mathematics were lower than "other" students for every objective and lower than Mexican American students for all but two of the 44 objectives tested. Black students attained a high degree of mastery on 2 of the 44 objectives tested.

- Low income family status and ethnic minority membership were each factors associated with lower performance on the norm-referenced tests. Those sixth grade students who were both from low income families and members of ethnic minority groups performed correspondingly less well. Black sixth graders from low income families as a group attained the lowest scores on both total reading and total mathematics, around the lowest quartile on national norms. "Other" sixth grade students not from low income families scored highest, well above national norms. Ethnic minority students from average and above average income families performed much like "other" students from low income families.

3. In both grades, females performed better than males in general on all the tests of reading and mathematics with one exception: eleventh grade males performed better than females on four of the objectives measured by the criterion-referenced test of mathematics. Differences between performance of males and females on all tests were greater at the sixth grade than at the eleventh grade.

   When ethnicity and sex were considered together, black sixth grade males attained the lowest average score on the norm-referenced reading and mathematics tests, at the lowest quartile on national norms; "other" female sixth graders attained the highest score, well above the national norm. Students categorized by other combinations of ethnicity and sex attained average group scores between those of black males and "other" females.

4. A number of significant differences were found in the performance of students in the twenty regions on both the norm-referenced tests and criterion-referenced tests in reading and mathematics. In general, students in those regions with relatively small proportions of ethnic

minority students performed better than did students in regions with high proportions of ethnic minority students. In two regions with sixth grade student populations that roughly match the ethnic proportions of the national norm group*, average scores on all the norm-referenced tests of reading and mathematics were generally at or above the national norms.

In one of the regions with proportions of ethnic minority eleventh graders similar to the state as a whole**, percentages of students demonstrating mastery of the objectives measured by the reading and mathematics criterion-refernced tests were similar to the statewide results. Higher or lower performance of students in the other regions was generally associated with higher or lower proportions of ethnic minority students in the populations of the regions.

These findings do not represent evaluations of the effectiveness of the regional education service centers. They provide information useful to each center in providing services appropriate to the needs of students and school districts in the region.

Students in suburban school districts as a group performed better on both norm-referenced and criterion-referenced tests in both reading and mathematics than students in the other four types of districts studied. Performance of students in urban districts as a group was generally the lowest. However, when the norm-referenced test scores of sixth graders in the five types of districts were analyzed separately for the three ethnic groups, there were no consistent differences in overall performance between black students in urban districts and black students in suburban districts, between Mexican American students in the two types of districts, or between "other" students in the two types of districts. This analysis revealed that students in the three ethnic groups in rural districts performed less well than their ethnic counterparts in urban and suburban districts on the norm-referenced tests in reading and, with the exception of black students on mathematics computation, on the norm-referenced tests of mathematics.

6. Several home factors were studied in relation to student performance on these tests:

   - Reading materials in the home - Students who reported availability of various reading materials in their homes performed better in both reading and mathematics than did students who reported little or no reading materials at home.

   - Television viewing - Students who reported that they watched moderate amounts of television performed better than students who reported watching more than five hours of television on the day before the test.

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* Proportions of the national norm group for the CAT-77 norm-referenced tests are 12% black, 9% Hispanic, and 79% "other."

** Ethnic proportions of the Texas eleventh graders are: 14% black, 18% Mexican American, and 68% "other."

- Homework - Students who reported that they did a moderate amount of homework performed better than students who reported that no homework was assigned or that they did not complete homework when it was assigned.

- Languages spoken in the home - Students who reported that Engligh is the predominant language spoken at home performed better in both reading and mathematics than those reporting that another language was spoken predominantly in the home.

- Educational levels of parents and educational aspirations of students - A consistent relationship was found between higher student performance on these tests and higher levels of education of the parents and higher educational aspirations of the students themselves.

Higher achievement was associated with a home environment in which viewing of television is moderate, homework is done, educational achievements and aspirations are high, reading materials are available, and efforts are made to speak English at home.

7. Students in both grades six and eleven performed better on those aspects of reading and mathematics that involve mastery of relatively specific basic skills and operations than they did on objectives calling for higher order cognitive skills or for combining a variety of skills for decision making or problem solving.

   - Sixth grade students scored higher on norm-referenced tests of reading vocabulary and mathematics computation than they did on tests of reading comprehension and mathematics concepts and applications.

   - On criterion-referenced tests of reading, more sixth and eleventh graders demonstrated mastery of reading objectives which require following written directions and arranging events in sequence than they did of objectives which involve distinguishing between fact and non-fact and drawing conclusions or generalizations.

   - On criterion-referenced tests of mathematics, more sixth and eleventh graders demonstrated mastery of objectives calling for counting combinations of money and addition, multiplication, and division than they did of objectives dealing with solving problems using ratios and percents and using mathematics concepts and skills in solving problems in everyday life.

8. Recognizing that achievement data were not collected in this study for the same students over the time span of their progression from grade six to grade eleven, it is generally observed that eleventh graders demonstrated higher levels of mastery of essential objectives both in reading and mathematics.

- Thirty-two percent of eleventh graders mastered all of the exit level mathematics objectives tested, as compared with 13 percent of sixth graders who mastered all of the mid-point objectives; 43% of eleventh graders mastered all of the exit level reading objectives tested, as compared with 33% of sixth graders who mastered all of the mid-point objectives.

- Four of the exit level mathematics objectives were mastered by 90% or more eleventh graders; none of the mid-point mathematics objectives were mastered by as many as 90% of sixth graders.

- Higher percentages of eleventh graders than sixth graders demonstrated mastery of several objectives common to both tests: identifying main idea; distinguishing between fact and non-fact; drawing logical conclusions; following written directions; multiplying and subtracting whole numbers; and solving problems using measures.

CONCLUSION

Based on the findings of this assessment, there are groups of Texas students whose average scores on norm-referenced tests were at or above the national average and whose mastery of Texas objectives on criterion-referenced tests was high. At the same time, there are other identifiable groups of students among whom there are important learning deficiencies in reading and mathematics. While the performance of these students as groups was below the national average or was below acceptable levels of mastery for Texas objectives, there were in every case individual students in each group who scored at or above national norms, or who demonstrated a high degree of mastery of essential objectives. Average scores of groups do not necessarily describe the performance of any individual student within a given group, but are statistical representations of the average tendency of a group of students to perform in a certain way.

Low performance of any of the groups discussed in this report cannot be attributed to any single factor inside or outside the school. Many factors are in a constant state of interaction within students. Multiple factors causing low achievement should be found, and recommendations formulated to bring about improvements in instruction that will increase reading and mathematics achievement. To be successful, appropriate actions to bring about such improvements will have to be taken by various elements of the educational community:

- Improvements planned and implemented by local school districts, must be the major focus of effort to improve student achievement where it is found to be low.

- Parents should determine what they can do to work effectively with school personnel to encourage and help their children to learn better.

- Technical assistance provided by the twenty regional education service centers should be designed to help school districts to strengthen their instructional programs.

- Institutions of higher learning which prepare teachers and other educational specialists should take into account identified learning gaps found among groups of students, and improve their teacher education programs and adequately prepare teachers and administrators to deal with these learning problems.

- The Texas Education Agency should consider all feasible steps to encourage and assist school districts in addressing identified student learning needs. These may include the revision of State Board of Education policy and the redirection of Agency resources toward the solution of these problems.

- Appropriate requests should be made to the Texas legislature to provide the resources and the flexibility necessary for school districts to plan and implement the required improvements in their instructional programs.

- The general public should better understand both the successes and the problems identified in connection with student achievement. The concerned citizens of this state should participate in and support constructive efforts at both local and state levels to bring about improvements in the quality of educational opportunities for all students in Texas.

Summary Report: Reading and Mathematics
Texas Assessment Project
Texas Education Agency, Austin, 1978

Title IV-C
Task Force
Handout: 12/6/78

SUMMARY OF FINDINGS: ACHIEVEMENT IN CITIZENSHIP AND WRITING

TEXAS ASSESSMENT PROJECT
TEXAS EDUCATION AGENCY, NOVEMBER 10, 1978

SUMMARY OF MAJOR FINDINGS

Results of the assessment of student achievement in citizenship and writing reveal that Texas 9-, 13-, and 17-year-olds are making satisfactory achievement in some aspects but are not performing as well as desired in other aspects of both goal areas. On certain dimensions where Texas students did not perform well, studies conducted in recent years by NAEP showed that students in the United States were also achieving less than satisfactorily.

Findings on Citizenship Achievement

Students in Texas were found to be achieving satisfactorily in several aspects of citizenship development:

1. Texas students demonstrated a high degree of recognition of Constitutional rights, positive attitudes about law in our society, and general support of equal opportunity for all citizens.

2. Texas students performed significantly better than their counterparts in the nation on 22 of the 101 items included on the citizenship tests.

3. In general, older students performed better than younger students who took the same seventy-six test items. Exceptions occurred on only a small number of items.

4. From the total 101 items included on the tests, staff of the Texas Education Agency identified 25 items to be of principal interest within the curriculum. On 12 of these 25 items of principal interest, the oldest Texas students who took the items performed well, that is, 85 percent or more of these students answered correctly. These 12 items tested students' knowledge of or agreement with the following facts and concepts:

   - The duty of a jury is to determine guilt or innocence.
   - An arrested person has the right to remain silent.
   - An arrested person has the right to know what he or she is being accused of.
   - An arrested person has the right to be represented by an attorney.
   - Police cannot keep persons jailed while gathering evidence.
   - The President cannot stop criticism from the media.
   - The U. S. should have more than one political party.

- Unfair laws should be changed.
- Talking things over with another nation is better than fighting.
- The black male (who was pictured and described) should be able to vote.
- Women should receive the same pay as men for the same work.
- A qualified person should get a job regardless of color, religion, or nationality.

Performance of Texas students was less than satisfactory on several aspects of citizenship development:

1. Texas students did not demonstrate satisfactory performance on knowledge of the structure and function of government or on support for the political process.
2. The performance of Texas students was lower than that of their national. counterparts on 32 of the total 101 items included in the citizenship tests.
3. Performance of Texas students was low on two of the 25 items of principal importance, that is, fewer than 50 percent of the oldest students who took the tests gave correct responses to items based on two concepts:
    - The executive branch is responsible for carrying out laws.
    - A student should look for a teacher or principal to stop students from fighting.
4. Certain sub-populations of Texas students demonstrated generally low performance on the citizenship tests:
    - Students from low income families performed less well than students statewide on more than two-thirds of the 101 items on the tests.
    - Black and Mexican American students performed less well than "other" students on about two-thirds of the test items. However, black and Mexican American students performed better than "other" students on four test items related to maintenance of an orderly school environment and to equal opportunity for all.
    - Students from urban and rural school districts performed less well than students in suburban districts.
    - Female students performed less well than male students on about one-third of the 101 items on the tests.
    - Students from homes where a language other than English is spoken predominantly performed less well than students statewide on more than two-thirds of the items on the tests.

5. Some differences were found in the performance of students in the 20 geographic regions of the state. However, no consistent patterns of high or low performance were found among the various geographic regions.

Findings on Writing Achievement

Texas students performed relatively well on some aspects of writing achievement measured by the tests:

1. **Nine-year-old students performed about as well as students in the United States on an exercise which called for imaginative or expressive writing. About half of Texas students were able to demonstrate adequate competency in expressive writing.**

2. **In the area of writing mechanics Texas students performed well on capitalization, punctuation, and word choice. They performed about as well as students in the nation on construction of sentences, spelling, grammatical agreement, and avoidance of run-on sentences and sentence fragments. In several aspects of writing mechanics which were measured for both 9- and 17-year-old students, performance of 17-year-olds was better than that of 9-year-olds on spelling, grammatical agreement, paragraph constructions, recognizing good writing, and viewing writing as a means of communication and a tool for learning about the past.**

Texas students performed less than satisfactorily on several other aspects of writing:

1. **Texas students of all three age levels performed less well than students in the nation on explanatory and persuasive writing in the letter writing mode. However, students in the nation also performed poorly on recent national assessments of this aspect of writing.**

2. **Texas students performed less well than students in the nation on contruction of paragraphs, construction of sentences which are not awkward, and general fluency and excellence in writing (measured by length of sentences, paragraphs, and essays, and by the use of a higher proportion of compound and complex sentences).**

3. **Performance of certain sub-populations of Texas students was below that of students statewide:**
   - **Students from low income families performed less well on most of the writing competencies measured.**
   - **Performance of black and Mexican American students was lower than performance of "other" students.**
   - **Nine- and 13-year-old students in urban school districts performed less well on specific writing tasks than did students in most of the other types of districts.**

- Male students at all three age levels performed less well than females on most of the writing tasks and skills measured.

- Students from homes where a language other than English is spoken predominantly performed less well than students statewide.

4. Performance of students on some of the writing competencies measured was analyzed for the 20 geographic regions of Texas. In most of the regions there was no consistent pattern of students performing higher or lower than students statewide. Some differences, however, were observed:

   - Students in Region I, with a relatively high proportion of minority students, performed less well than students statewide on three of the four writing tasks.

   - Students in Region XVI, which has a smaller proportion of minority students than the state as a whole, performed better than students statewide on two of the four writing tasks.

CONCLUSION

Based on the findings of this assessment, Texas students are performing satisfactorily on some aspects of citizenship and writing achievement. At the same time, there are certain areas in which all students or identifiable sub-populations of students are not achieving satisfactorily in both citizenship and writing.

Low performance of any of the groups of students discussed in this report cannot be attributed to any single factor inside or outside the school, for many factors are in a constant state of interaction within students. Multiple factors causing low achievement should be sought, and recommendations formulated to bring about improvements in instruction that will increase citizenship and writing achievement. To be successful, appropriate actions to bring about such improvements will have to be taken by various elements of the educational community:

- Improvements planned and implemented by local school districts must be the major focus of effort to improve student achievement where it is found to be low.

- School personnel should work with parents in determining what the parents can do to encourage and help their children to learn more effectively.

- Technical assistance provided by the twenty regional education service centers should be designed to help school districts to strengthen their instructional programs.

Summary of Findings

- Institutions of higher learning which prepare teachers and other educational specialists should take into account identified learning gaps found among groups of students, and improve their teacher education programs to prepare teachers and administrators to deal with these learning problems.

- The Texas Education Agency should consider all feasible steps to encourage and assist school districts in addressing identified student learning needs. These may include the revision of State Board of Education policy and the redirection of Agency resources toward the solution of these problems.

- Appropriate requests should be made to the Texas legislature to provide the resources and the flexibility necessary for school districts to plan and implement the required improvements in their instructional programs.

- At both local and state levels, school boards, school administrators, and school staffs should work vigorously to inform the general public of both the successes and the problems identified in connection with student achievement. Concerned citizens, with understanding, should be encouraged by school officials to participate in and support constructive efforts to bring about improvements in the quality of educational opportunities for all students in Texas.

Summary of Findings: Achievement in Citizenship and Writing
Texas Assessment Project
Texas Education Agency
November 10, 1978
pp. 3-10

Title IV-C
Task Force
Handout: 12-6-78

RE79-835-61-05

An Interpretative Analysis of Two Studies Relating School Input Resources to Student Educational Outcomes

George H. Olson

Over the last few years, the System-wide Evaluation Branch of the Department of Research and Evaluation has made several attempts to find meaningful relationships between school inputs and educational outcomes. Among the classes of inputs studies have been the following: teacher characteristics (e.g., highest degree, years of experience), financial and budgetary inputs (e.g., special education funding, per-pupil expenditure, campus budgets), school resources (e.g., number of books in library, age of building), community inputs (e.g., PTA members, volunteers), and student inputs (e.g., demographic characteristics, previous test scores). Typically, standardized test scores of students have been used as measures of educational outcomes.

Generally our efforts in this endeavor as well as those conducted by other researchers in other settings have largely been unsuccessful. In one critical review of such studies, Averch, et al. (1972) concluded: "The best information we have...is that schools do not now have a tremendous impact on the achievement that does occur." To us this assumption, that school resources have no impact on student educational outcomes, was untenable. We felt surely that variability in school resources was related to variability in student outcomes. We attributed the failure of our own studies, and those of others, to clearly establish such a relationship, to an insensitivity in the methodologies that have typically been used.

Most studies of this sort have used global or aggregate measures (i.e., school or district means and medians) of school resources and student outcome measures. In doing so the rich variability that exists within schools or districts has been ignored. When aggregate measures have been used the implausible assumption has been made that all students within specific schools (or districts) are exposed to each resource to the same degree.

In the studies summarized here we attempted to correct previous methodological deficiencies by analyzing data at the student and classroom level in addition to the school level. Furthermore, in one of the studies we attempted to analyze the effect of an intraclassroom phenomenon (namely, peer-group influence) on student outcomes.

School Inputs and Student Outcomes

In the first study (A Study of the Relationships between Student Characteristics, Teacher Characteristics, and School Resources on Student Educational Outcomes, Sheehan and Berry, IR79-001-31-05) we attempted to measure the impact of a wide variety of school resources on the overall quality or effectiveness of the District's schools and on the cognitive and affective outcomes of individual students.

Because of the wider variety of available data, we chose as our sample students who were in the fifth grade during the 1977-78 school year. During the previous year (1976-77), when these students were in the fourth grade, we had conducted a massive student survey in connection with studies of desegregation and socioeconomic status in which we had obtained measures on a wide variety of student background, attitudinal, and socioeconomic variables. Since we obtained measures on many of these same variables again in 1977-78, this gave us the opportunity to measure change on these variables over approximately a year and a half of schooling. We also had achievement data for students in our sample collected near the beginning of the 1976-77 school year and again near the end of the 1977-78 school year.

Data on school resources were obtained from a variety of sources including computerized personnel files, the pupil accounting office, the budget office, and the schools themselves. A full list of all variables used in this study is given in Table 1.

School Quality. Our first task was to derive a measure of school quality or effectiveness (in this study we used the terms interchangeably). To do this we regressed each of our fifth-grade outcome measures on all of the fourth-grade pre-measures (see Table 1). This procedure gave us a set of prediction equations from which we could predict fifth-grade outcomes based upon averaged fourth-grade pre-measures. These predicted outcomes could then be used as "expected" student outcomes for students attending average schools. Once these expected outcomes were determined, school quality could be computed by comparing the average student outcomes at the end of the fifth grade with their average expected outcomes at the end of the fifth grade. Those schools where student outcomes were, on the average, higher than expected could then be judged as being more effective than schools where student outcomes were lower than expected, on the average. The differences between average expected outcomes and actual outcomes, then, were our measures of school effectiveness.

TABLE 1

List of Variables Used in the Study of Resources on Student Outcomes

Outcome Measures

- ITBS Reading Subtest (Gd 5, S78)
- ITBS Language Subtest (Gd 5, S78)
- ITBS Math Subtest (Gd 5, S78)
- General Self-esteem (Gd 5, S78)
- Academic Self-esteem (Gd 5, S78)
- Locus of Control (Gd 5, S78)
- Educational Aspirations (Gd 5, S78)

Background Measures

- ITBS Reading Subtest (Gd 4, F76)*
- ITBS Language Subtest (Gd 4, F76)*
- ITBS Math Subtest (Gd 4, F76)*
- General Self-esteem (Gd 4, W77)*
- Academic Self-esteem (Gd 4, W77)*
- Locus of Control (Gd 4, W77)*
- Educational Aspiration (Gd 4, W77)*
- Individual SES (Gd 4, W77)
- Family Social Environment (Gd 4, W77)
- Student Ethnicity
- Student Sex

School Social Composition

- Proportion White students
- School SES level
- School percent ADA
- School percent average daily transactions
- Classroom percentage White students
- Classroom average SES level
- Average classroom average family social environment level

School Resources

- Per-pupil expenditure for instruction
- Per-pupil expenditure for media
- Per-pupil expenditure for administration
- School square footage
- School acreage
- School size
- Teacher ethnicity
- Teacher education level
- Teacher experience
- Gourman rating of teachers' college

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* Used as pre-measures in determining school effectiveness.

In terms of these measures of school quality, the 27 intermediate schools included in our sample generally were not found to vary extensively from one another. While this was not really an expected outcome from our study it does merit interest in its own right. It suggests that once we adjust student outcome measures for individual differences in pre-measures the schools differ only moderately in terms of effectiveness. We did not attempt to measure the magnitude of the schools' effectiveness, however. Rather, we were interested in determining the extent to which school resources accounted for differences in school quality.

School resources and school quality. Before we could estimate the effect of school resources on school quality we first had to remove (or partial out) the effect of another source of variability, namely, that due to differences in schools' ethnic ratios, socioeconomic status, average daily attendance, etc., or what we loosely termed the "school's social composition."

Having thus removed this source of variance we then estimated the impact of school resources on the variance left in our school quality measures. The results were mixed, and in some cases made little sense. A summary of the findings follow:

(1) Instructional expenditure was a positive predictor of academic self-esteem.

(2) Percent PTA membership was a negative predictor of mathematics achievement but a positive predictor of educational aspirations. There was no obvious reason for this finding.

(3) The proportion of White teachers was a positive predictor of language achievement.

(4) The proportion of experienced teachers was a positive predictor of academic self-esteem.

(5) Expenditures for media and administration, school acreage, and school size did not predict any of the measures of school quality.

(6) The traditional indicator of teacher training, the proportion of teachers with advanced degrees, did not predict any of our measures of school quality.

Because only a few of a large number of investigated relationships were found to be significant, it is possible that some of these were merely chance occurrences. It is perhaps safer to say that school resources such as monetary outlays, advanced teacher training, and size of school were not found to be important predictors of overall school quality.

School and classroom resources and individual student performance. Our next step was to investigate the impact of school resources on individual student outcomes. As before, student outcomes at the fifth grade were defined in terms of the students' actual outcomes. Here we were interested in the effect of school resources on the variance of students' outcome measures over and above their individual differences on the pre-measures and the "social composition" of the schools they were in.

The results of this step in our analysis were disappointing. No more than a chance number of relationships were significant. Not one of thirteen school and classroom resource variables was found to significantly affect the cognitive and affective measures of performance investigated in this study.

Importance of background and social composition of schools on student outcomes. The results discussed in the previous pages were concerned with the effect of school resources over and above student background effects and school social climate effects. When the variance in outcome measures was adjusted for these effects, there was very little variance left to associate with school resources. It is, therefore, perhaps natural to ask, "How much of the actual variance in student outcome measures could be explained by differences in students' backgrounds and schools' social composition?"

In Table 2 the proportions of variance in six student outcome measures explained (predicted) by various combinations of sets of background, social composition, and resource variables are displayed. From the table we see that student background measures (fourth-grade pre-measures on the cognitive and affective variables plus student demographic characteristics and SES status), even after adjustment for the other two sets of variables, accounted for over 80 percent of the variance in the sample's cognitive achievement and over 30 percent of the variance in affective outcomes. Thus, in the area of cognitive achievement, 80 percent of the variance in fifth-grade student scores that existed after nearly two full years of schooling could be attributed to measurable differences among students at the fourth-grade level. As for the affective measures of outcomes, the greatest proportions of explainable variance, in this study, could also be attributed to individual differences among students.

With the addition of the variables included under school social composition we were able to account for an additional four or five percent of the outcome variance in cognitive achievement and from eight to fourteen percent of the affective outcomes. Finally, the addition of

TABLE 2

Proportions of Student Outcome Variance Accounted for by Sets of Background, Scoial Composition, and Resource Variables

Variable Set	Cognitive		Affective			
	Reading Ach.	Lang. Ach.	Gen. Self-concept	Academic Self-concept	Locus of Control	Educ. Aspiration
Student background effects without adjustment for other effects	.86	.88	.33	.52	.39	.49
School social composition effects independent of student background effects	.05	.05	.19	.06	.21	.05
School resources effects after adjustment for background and social composition effects	.04	.08	.11	.12	.12	.07

the school resources accounted for only an additional three or four percent of the variance in cognitive outcomes and from seven to twelve percent of the variance in affective outcome measures.

Conclusions. We showed that some intermediate schools were somewhat more effective than others in raising achievement test scores and in improving attitudes. Yet the school and classroom resources which we examined were not found to be consistently related to school effectiveness or individual student performance. Thus, it would appear that we have supported the findings of others that schools have very little impact on the cognitive and affective achievement of their students. Rather than the schools themselves, individual differences among students appear to contribute most to individual students' cognitive and affective achievement.

Peer Group Influence in the Classroom

In the second study summarized in this paper, we approached the problem of assessing the impact of school effects on student outcomes from a different point of view. In this study (A Study of the Relationship between Peer-group Influences and Student Educational Outcomes, Sheehan and Berry, IR79-002-31-05) we chose to investigate the impact of one class of social processes, namely, peer-group influence on student achievement.

Theoretical background. There exists in the sociological literature a fairly large corpus of studies in support of one or the other of two prominent theories of the social dynamics and influences of peer groups on their members. One theory, relative deprivation theory, holds that members of a group are motivated to action according to their perceived standing relative to the rest of the group. Accordingly, members who perceive themselves as having low status relative to their peers also perceive themselves as being deprived, and consequently develop feelings of inadequacy and inferiority. This, in turn, is thought to result in even lower actual status relative to the rest of the group. The second theory, environmental press theory, asserts that groups assert a normative influence on their members. Thus, lower status members are assumed to perceive higher status members as models and try to emulate them.

When translated to group processes that operate in the classroom, relative deprivation theory would predict that lower-achieving students would perceive themselves as comparing unfavorably with their classmates and would subsequently develop feelings of inferiority which would result in even lower achievement. Environmental press theory, on the other hand, would predict that lower-achieving students would perceive their higher-achieving classmates as a positive normative reference group and would try to emulate them.

Results. To test these two theories in a real setting, we chose as our sample fifth graders who were in heterogeneous classrooms during the 1977-78 school year. As in the previous study, we chose this group because of the availability of a wider range of variables both from the 1976-77 school year, when these students were in the fourth grade, and the 1977-78 school year.

Our outcome measure was the ITBS composite score collected on fifth graders near the end of the 1977-78 school year, and a measure of academic self-esteem collected in January of 1977. Our interest was in determining the relationship between these outcome measures and individual students' achievement status relative to the mean of their classes.

To take into account initial individual differences of students and classrooms we obtained or computed measures of initial achievement level (from fourth-grade scores in 1976-77), socioeconomic status, average classroom achievement, initial academic self-esteem (fourth grade, 1976-77), and classroom heterogeneity (standard deviation of classroom achievement). Because of the possibility that peer-group influences might operate differently for Black students and White students, we ran separate analyses on the outcome measures for each group.

If relative deprivation theory were operating we would expect to find a negative relationship between mean classroom achievement level and students' achievement relative to their classroom means, and a positive relationship between students' relative achievement and students' self-esteem. This, in turn, should have resulted in a positive relationship between self-esteem and fifth-grade achievement.

Neither of our analyses, for Whites or Blacks, provided evidence to support this hypothesized chain of relationships. In both cases, students' achievement relative to their classrooms was not related to academic self-esteem. In addition, for Black students, the relationship between self-esteem and fifth-grade achievement was nonsignificant.

Environmental press theory, on the other hand, predicted a positive relationship between mean fourth-grade classroom achievement level and fifth-grade achievement. This relationship was supported in our analysis for White students but not for Black students.

On the assumption that Black students in a classroom might be a more relevant comparison group for individual Black students, we re-ran the complete analysis, this time using only Black students in all computations. This time we were able to support the predictions of environmental press theory but again failed to support relative deprivation theory.

Conclusions. We conclude that for Whites, the mean classroom achievement level exerted a positive influence on subsequent achievement. For Blacks, the average classroom Black achievement level also exerted a positive influence on subsequent achievement. Before we place too much faith in these findings, however, we should note that there may be other reasons why students may have performed better in higher-achieving classes. For example, teachers may have used more effective teaching behaviors (i.e., those behaviors likely to increase student achievement). This explanation is supported by the findings of Brophy and Good (1970) and Rubovits and Maehr (1971) who concluded that higher-ability students receive preferential teacher treatment. However, other investigators (e.g., Alpert, 1974) could find no differences in effective teacher behaviors across ability groups.

Students may also have performed better in the higher-achieving classes because of modified objectives and/or an accelerated curriculum. Although baseline objectives have been adopted for all grade levels, teachers could have modified the objectives and organized the curriculum to fit the achievement level of their classes. This interpretation is consistent with Schrank's (1968, 1969) research. After studying the effects of ability grouping on the mathematics achievement of male college preparatory students, he concluded that the students did not receive academic stimulation from their brighter peers. Achievement differences between ability-grouped and randomly-grouped classes were due to curricular differences and not due to grouping effects. It was what was done for the students rather than how they were grouped that was important.

Additional research is needed to clarify whether environmental press and/or preferential instruction (i.e., modifications in the objectives, the organization of the curriculum, the teaching methods, and the teaching materials) cause students to learn more in higher-achieving classes. However, irrespective of the reasons, students do appear to learn more when they have higher-achieving classmates (in the case of Black students when they have higher-achieving Black classmates), and they do not suffer relative deprivation. This implies that classroom composition can be manipulated to compensate for the disadvantaged backgrounds some students may have.

References

Alpert, J. L. Teacher behavior across ability groups: A consideration of the mediation of Pygmalion effects. Journal of Educational Psychology, 1974, 66, 348-353.

Averch, H. A., Carroll, S., Donaldson, T. S., Keesling, H., & Pincus, J. How Effective is Schooling? A Critical Review and Synthesis of Research Findings. Santa Monica, CA: The Rand Corp., 1972.

Brophy, J. E., & Good, T. L. Teachers' communications of differential expectations for children's classroom performance: Some behavioral data. Journal of Educational Psychology, 1970, 61, 365-374.

Rubovits, R., & Maehr, M. Pygmalion analyzed: Toward an explanation of the Rosenthal-Jacobson findings. Journal of Personality and Social Psychology, 1971, 19, 197-203.

Schrank, W. R. A comparison of academic achievement in mathematics of ability-grouped versus randomly-grouped students. The Journal of Educational Research, 1968, 62, 126-129.

Schrank, W. R. Academic stimulation of mathematics pupils from their classroom association with brighter pupils. The Mathematics Teacher, 1969, 62, 473-475.

Sheehan, D., and Berry, C. A Study of the Relationship between Student Characteristics, Teacher Characteristics, and School Resources on Student Educational Outcomes (Report No. IR79-001-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.

Sheehan, D., and Berry, C. A Study of the Relationship between Peer-group Influences and Student Educational Outcomes (Report No. IR79-002-31-05). Dallas, Texas: Dallas Independent School District, Department of Research and Evaluation, November 1979.